IOC QUARTERLY COMPETITIVE REVIEW: Q3 2017

Prepared by SX/B with inputs from IOC Relationship Managers, Strategy Consultancy Insights (SCI), SX/D, SX/U, Shell Energy BI & SRM

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Executive Summary

Total Shareholder Return (TSR) for Q3 2017 was led by Shell. Shell's share price increased by 12%. TOTAL, BP and Chevron's share price increased by 5.9%, 4.6% and 1.2% respectively while ExxonMobil share price declined around 8.7% during this period. The IOC's continue to have strong dividends. BP has announced its Share buy back from Q4 2017, but retains the scrip.

The IOC peer group's clean earnings were up by 49% y-o-y due to increase in oil price (14% y-o-y) and gas prices (3% y-o-y). Strong refinery margins and improved operational performance also contributed to the growth in earnings.

Recovery in prices led to significant improvement in earnings for Chevron, Shell and Exxon. BP had 100% y-o-y increase in earnings due to higher oil & gas prices, increased production, strong downstream growth and good refining margins. TOTAL, with resilient earnings in the last two years, had smallest y-o-y increase in this quarter as its 'lower for longer' portfolio has less oil upside.

Rolling four quarter ROACE shows recovery with peer group ROACE improved to 4.7% from 3.7% in Q1/17, and 3% in Q3/16. Jump in the ROACE is due to the improved market conditions. IOCs rolling 4Q earnings increased by 64% y-o-y. TOTAL continues to lead IOC peers with ROACE of 6.3%, followed by Exxon at 6.2%. The gap between TOTAL and other IOCs is reducing significantly every quarter.

Dividends: IOCs continue to emphasize value of consistent dividends. BP is still minimizing cash dividend by using undiscounted scrip dividends (typical scrip election 20%) as an alternative to cash. It is planning to restart its shares buyback program from Q4/17, with the objective to offset the ongoing dilutive effect of scrip dividends over time. TOTAL maintains its option of cash dividend or new shares (available at 0 to 10% discount) in the company, but will remove the discount on the scrip with the conclusion of the Maersk acquisition.

Source: Group Reporting *As of 15th Oct 2017*

Shell leads IOC peers in CFFO comparison for the last five quarters due to strong operational performance and its divestment program. Its Q3/17 CFFO had unfavorable working capital impact due to increase in inventory value and current receivables. Over last 5 quarters FCF of Shell has covered its dividends. Gearing is maintained at 25% in this quarter. All IOC's have managed to cover cash dividend with FCF in Q3/17. For the first time in last 9 Quarters BP's FCF has covered its dividends.

Key events: TOTAL bought Maersk Oil for $7.45 bln. Maersk Oil's North-Western European businesses with Total's existing portfolio will position Total as 2nd largest operator in the North Sea with strong production profiles in UK, Norway and Denmark, thus increasing exposure to conventional assets in OECD countries. Exxon won 10 blocks in Round 14 bid in Sep'17 and it also won North Carcara in Round 2 within a month span. Exxon's aggressiveness to acquire acreage in Brazil aligns with its strategy to enhance its presence in prospective DW acreage in Latin America.

USEFUL LINKS

- Group QCR Archive
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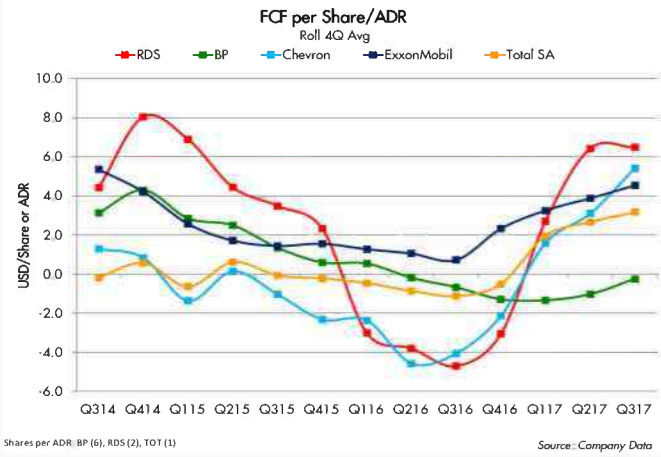
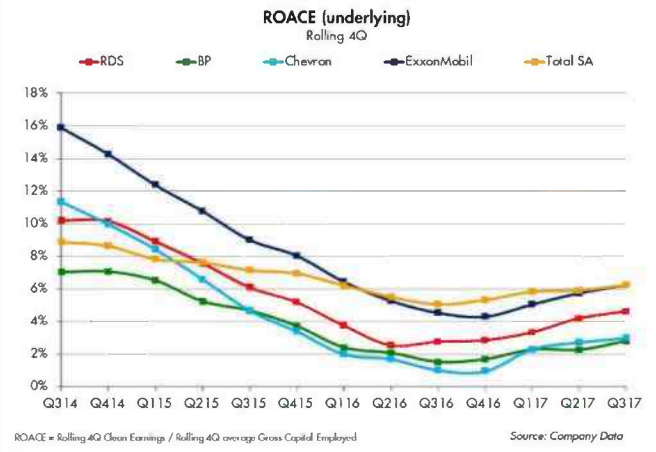
Financial Summary

Focusing on the key metrics for measuring a world class investment company:

Free Cash Flow per share: Different trends amongst IOCs in FCF/share can be explained by the difference in capital investment. Shell's FCF has increased by 10% y-o-y, but decreased q-o-q basis. Shell continues to lead the IOCs in FCF/share rolling 4Q due total divestments proceeds of $14 billion in last 4 quarters. Chevron is in second position, of highest FCF/share rolling 4Q by reducing its capital investment (y-o-y) and increasing its divestments by 178% y-o-y. Exxon slipped to third position in FCF/share rolling 4Q even though it increased its CFFO by 41% (y-o-y). BP had a strong FCF this quarter, it had been negative from Q4/15 until Q1/17, predominantly due to payment outflow for Macondo. Cash payments related to the Macondo accident were $0.6 billion in Q3/17. BP's CFFO has increased by 140% compared to Q3/16 and it is because of improved operational performance. Overall IOCs CFFO increased in Q3/17 with improved market conditions. CFFO grew this quarter by 17% y-o-y, and on a rolling 4Q basis it increased by 57%.



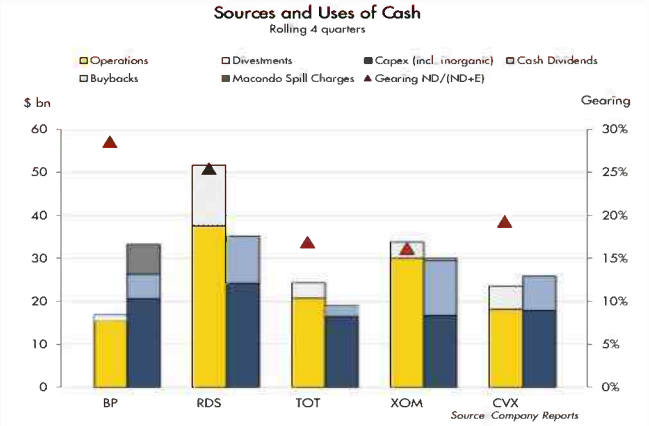
Rolling four quarter ROACE has improved across the peer group by an average of 0.4% in Q3/17 over Q2/17. IOC's ROACE is 4.7% compared to 3.7% in Q1/17, and 3% in Q3/16. TOTAL's resilient earnings in 'lower for longer' world enabled it to lead the IOC peers in this metric with ROACE of 6.3%. Exxon's ROACE improved to 6.2% in Q3/17 mainly due to increase in earnings by 47% y-o-y. Production increased with several projects coming online before schedule and continued project ramp ups. Shell's ROACE (4.6%) improved significantly this quarter mainly driven by consistent strong Q-o-Q earnings, reduction in debt by around $9.5 bn in Q3/17 compared with Q3/16 and divestment of lower ROCE businesses in Q2/17. Chevron's ROACE (3%) improved this quarter from 2.3% in Q1/17 mainly driven by stable earnings and 2% y-o-y decrease in non-remunerative capital employed. Chevron's ROACE is expected to improve in next few quarters as it continues to bring on line major projects thereby enabling its reduction in capex. BP's ROACE has improved from 1.5% in Q3/16 to 2.8% in Q3/17, due to 100% increase in y-o-y earnings. Overall on a y-o-y basis, the peer group's capital employed increased by 2% while rolling 4Q clean earnings of the peer group also increased by 64%.



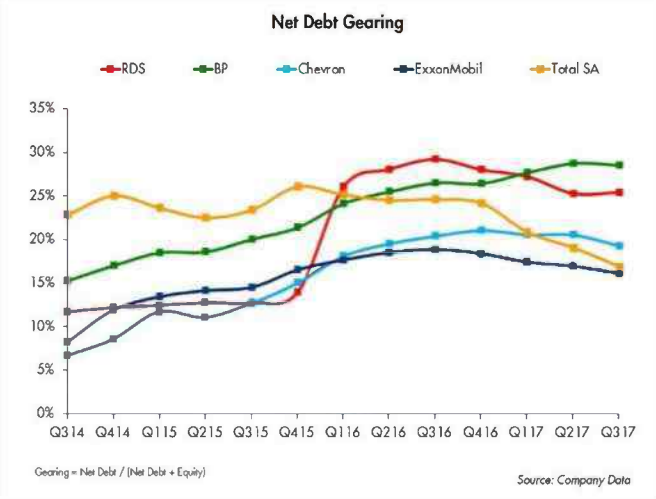
Pressure of credit rating downgrade easing: In last couple of quarter's the ratings of IOC's have improved. Shell's credit rating was upgraded by S&P in Sep'17 to A+ from A with positive outlook due to sustained strong cash flow, strong operating performance and successful divestment program. Moody had revised Shell outlook from negative to stable in Jun'17 due to the recovery of CF, earnings and asset disposal plan of $30 Billion. ExxonMobil is no longer on Moody's watch list and the outlook changed from negative to stable in Jun'17. Substantial operating cost reductions and more efficient capital spending has restored ExxonMobil's ability to fund the capital reinvestment and generate free cash flow. Moody has upgraded BP from A2 to A1 in Jun'17 due to the increased clarity around the size and timing of remaining cash payments linked to the Deep-Water Horizon incident, as well as expected improvements to BP's credit metrics and its strong operating performance despite high oil price volatility. Similarly, for other IOCs positive FCF numbers is reducing the rating downgrade pressure.

	Moody Rating (outlook)	S&P Rating (outlook)
ExxonMobil	Aaa (stable)	AA+ (negative)
	Aa2 (stable)	A+ (positive)
	Aa2 (stable)	AA- (negative)
	A1 (positive)	A-(stable)
	Aa3 (stable)	A+ (negative)

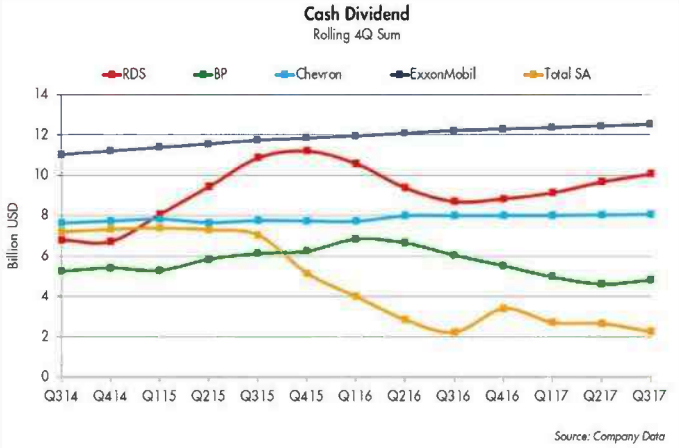
IOC's are moving towards generating more CFFO to cover uses of cash: On a rolling four quarter basis Shell, TOTAL and Exxon generated positive cash to cover their cash dividends and capital expenditure. In Q3/17, the majors generated CFFO of ~$30.9 billion in aggregate, to cover ~$24.2 billion in capex (organic + inorganic) and ~$10 billion in shareholder distributions. Shell's FCF was in line with Q3/16 value, but there was significant jump in rolling FCF due to large divestment proceeds of $14 Billion (rolling 4q) enabling it to cover cash dividend and capital investments. TOTAL's stable CFFO and maintenance of scrip dividend contributed to positive cash. This was the second time over the past 8 quarters that BP had positive FCF due to increased CFFO (increased by 140% y-o-y).



Gearing ratio remained high but started to decline:
In this quarter, reduced borrowing across peer group, except BP, led to lower gearing. Net debt across IOC peer group decreased by $21.2 billion compared to end Q3/16 and now stands at $202 billion, and declined by $5.7 billion q-o-q. Gross debt stands at $288 billion for IOC peer group. BP has increased net debt y-o-y, by $6.5 billion and gross debt by 12% ($6.8 bln) y-o-y and 6% ($4 bln) increase from Q1/17. BP's gearing increased to 28.5% (highest among peers) compared to 27.7% in Q1/17 but this is in the range of its re-established gearing band of 20%-30%. Chevron's gearing has reduced to 19.3% in Q3/17 from 20.4% in Q3/16 and it is within the comfortable debt ratio of 30%. TOTAL has achieved gearing of 16.9% in Q3/17 compared to 24.6% in Q3/16 mainly due to Atotech sale. But gearing is expected to go back up to around 25% by Q4/17 after the Petrobras $2.2 transaction is finalized and the Maersk deal is closed. Exxon's gearing reduced to 16.1% (lowest amongst IOC's) in Q3/17 compared to 18.8% in Q3/16.



IOC peer group distributed ~$10 billion in cash dividends in Q3/17, without any buybacks. TOTAL increased its dividend by 1.6% to Euro 0.62/share compared to Q3/16. Total also continued to leverage scrip dividend to save cash. Chevron increased dividend by 0.9% to $1.08/share compared to Q3/16. Exxon has decided to increase its dividend annually by 2.7% in Q2/17 and no share buy-backs. The last share buyback in Q1/17 by Exxon was mainly to offset dilution related to benefit plans and programs. For BP dividend per share has remained unchanged since Q3/13 and it continues to save cash through undiscounted scrip dividends. BP has announced to recommence its share buyback from Q4/17, with the objective to compensate for the scrip dividends.



IOCs Earnings Snapshot

Q3/17	Production	Earnings (Clean)	Capital Spend	Financial Framework	Other Highlights
	3,657 kboe/d +1.7% yoy	$4.1 bn, (up $1.3bn yoy) • Upstream: $0.6 bn • Integrated Gas: $1.3 bn • Oil Products: $2 bn • Chemicals: $0.7 bn	Q2: $5.7 bn, -25% yoy	• FCF: $3.7 bn • Dividend: $3 bn • Gearing: 25.4%	• Highest CFFO among peers • Highest Clean earnings ($4.1bn) among peers • ROACE is 4.6%, rolling 4Q
ExxonMobil	3,878 kboe/d +1.7% yoy	$3.9 bn, (up $1.2 bn yoy) • Upstream: $1.5 bn • Oil Products: $1.5 bn • Chemicals: $1.1 bn	Q2: $6 bn, 43% yoy	• FCF: $5 bn • Dividend: $3.3 bn • Gearing: 16.1%	• Aggressively bid and won 10 blocks in Brazil Round 14, north Carcara in Round 2. • Maintained capex guidance of $22 bln in 2017.
Chevron	2,717 kboe/d +8.1% yoy	$1.5 bn, (up $0.5bn yoy) • Upstream: $0.7 bn • Downstream: $1.1 bn	Q2: $4.5 bn, -14% yoy	• FCF: $4.5 bn • Dividend: $2.0 bn • Gearing: 19.3%	• Permian production at 187 kboe/d, was up ~30 kboe/d versus Q3/16
bp	3,583 kboe/d (Including Rosneft share) +13.9% yoy	$1.9 bn, (up $ 0.9 bn yoy) • Upstream: $1 bn • Oil Products: $1.4 bn • Chemicals: $0.13 bn	Q2: $4.5 bn, +25%	• FCF: $2.1 bn • Dividend: $1.7 bn • Gearing: 28.5%	• Undiscounted Scrip dividend option is maintained and Share buy back announced from Q4/17 • Positive FCF for the second time • Earnings improved by 100% y-o-y
TOTAL	2,581 kboe/d +5.6% yoy	$2.7 bn, (up $0.6 bn yoy) • Upstream: $1.4 bn • Gas, Renewables, Power: $0.1 bn • Ref & Chem: $1.0 bn • Marketing: $0.5 bn	Q2: $3.6 bn, -31% yoy	• FCF: $0.99 bn • Dividend: $0 bn • Gearing: 16.9%	• Saving cash through scrip dividends(discount option is available) • Highest ROACE among peers (6.3%, rolling 4Q)

Note: Aggregated earnings mentioned above are clean earnings including corporate. Gearing is calculated as net debt/(net debt + equity)

Overall summary of quarterly results per IOC

This conclusion is based on subjective assessment of IOCs result within the peer group. Shell's result highlighted as strong due to strong improvement in y-o-y earnings, highest CFFO among peers. Exxon highlighted as strong due to lowest gearing amongst peers and increase in earnings. Chevron and Total highlighted as average due to earnings growth in Q3/17, capital reduction and gearing reduction. BP's earnings highlighted as neutral due to highest gearing amongst peers though there is increase in earning.

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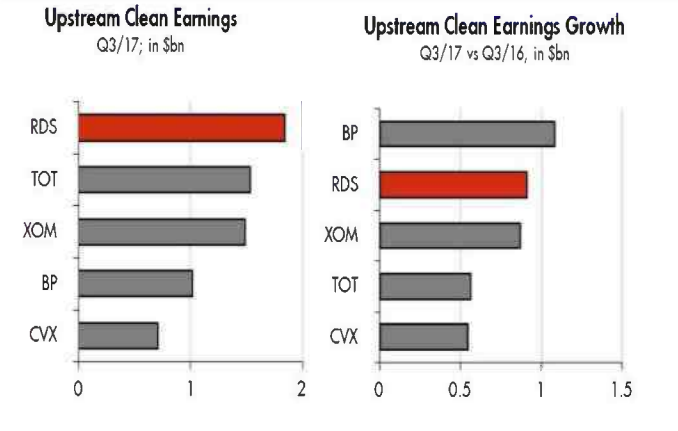
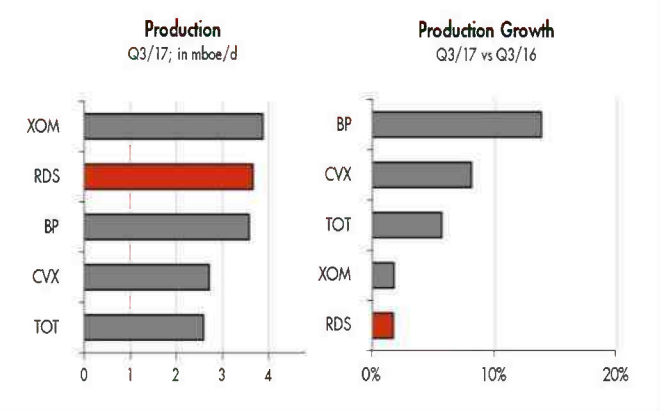
Segments Earnings

Upstream (including Integrated Gas) earnings across IOC peer group is $6.6 billion from $2.6 billion in Q3/16 due to high oil and gas price realization and project ramp ups. The increase in earnings was due to a $6.2/bbl (14%) jump in the y-o-y average oil price. Henry Hub gas prices improved by 3% ($0.1/mmbtu) y-o-y. IOC peer group upstream earnings increased by 14% q-o-q. Shell's Q3/17 upstream earnings were $1.8 billion with a 97% y-o-y increase. It was a strong quarter for Shell upstream, with high price realization and higher gas production & LNG liquefaction volumes. BP upstream earnings had a y-o-y increase of ~$1 billion mainly due to higher production including the ADCO impact, projects start-ups and lower exploration write-offs. TOTAL upstream earnings $1.5 billion had a 58% y-o-y increase due to production increases, higher oil & gas prices and lower operating costs. ExxonMobil upstream earnings had a 140% y-o-y increase predominantly due to high oil & gas realization and higher volume & mix effects. Despite strong recovery y-o-y US upstream earnings remain negative. Chevron upstream earnings was $0.7 billion compared to $0.2 billion in Q3/16. Chevron US upstream earnings have improved y-o-y but is still negative this quarter. Chevron International upstream earnings decreased in Q3/17 due to higher depreciation expense including the effect of catch-up depreciation for Bangladesh operations and an asset write-off, but it was offset by higher oil and gas realisations.

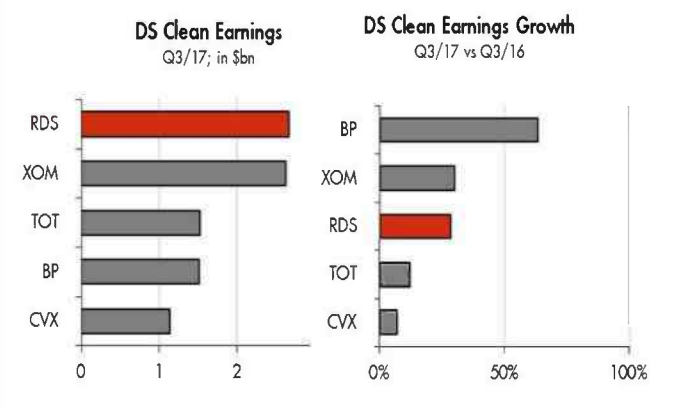


Production volumes across the peer group for the quarter grew by 5.8% y-o-y and increased by 1% q-o-q. Exxon's overall production increased by 2% y-o-y with Liquids production up by 69 kbd (3%) over Q3/16 volumes due to lower downtime and higher project volumes. Exxon's natural gas production was 9.6 bcfd, down by 16 mmcfd from Q3/16 due to field decline and lower demand which were partly offset by project ramp-up, primarily in Australia, and work programs. Shell's overall production increased by 1.7% y-o-y. Shell Gas production volume increased by 4.7% y-o-y due to higher production from Gorgon with three trains online, compared with one train in the same quarter last year. Shell Oil production was down by 1% y-o-y due to field declines and divestment.



BP's volumes increased by 14% y-o-y with oil production up by 15% y-o-y and gas production up by 12.3% y-o-y. This is mainly due to project ramp ups, acquisitions and new fields coming online. BP's major projects programme is on track to deliver 800,000 boe/d of new production by 2020. TOTAL continues to increase production driven by project start-ups and ramp-ups, taking over the Al-Shaheen concession and supported by Barnett acquisition. Chevron's production up by 8% y-o-y, contributed by major capital projects (Gorgon, Angola LNG), shale and tight oil in Permian basin properties, were more than offset by normal field declines and asset sales.

Downstream earnings improved y-o-y by 27% driven by strong results for all IOC's. BP's earnings increased by 63% y-o-y due to improved refinery margins, stronger trading & supply contribution and growth in fuels marketing. Shell's DS earnings improved by 28% y-o-y, benefiting from stronger chemicals and refining industry conditions even though it recorded decreased refinery availability (87% vs 92%) and chemicals plant availability (88% vs 93%) on y-o-y basis due to unplanned shutdowns of the Pernis and Deer Park plants. Exxon leveraged higher refining margins coupled with increased chemicals products sales to boost earnings by 30% y-o-y which was partly offset by lower gulf coast refinery availability due to hurricane Harvey. Total's DS earnings increased 12% y-o-y due to higher refining margins and strong marketing performance. Chevron posted a 7% y-o-y downstream earnings growth riding on higher USWC and USGC refining margins and improved US marketing margins.



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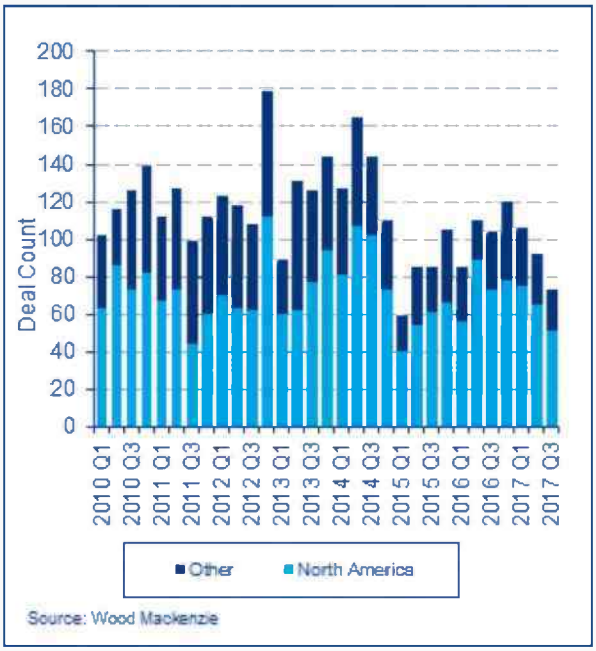
Q2 2017 Portfolio Activity (M&A/NBD)

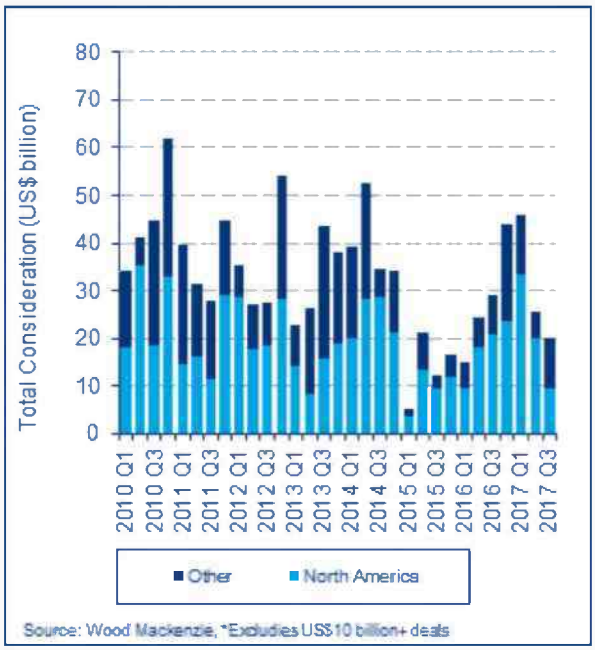
Upstream M&A activity declined further in Q3 2017 – Quarterly deal count dropped to lowest since 2015. Q3 2017 deal spend was however supported by two major corporate deals - CEFC China's acquisition of 14.16% stake in Rosneft for US$15.7 billion and Total's takeover of Maersk Oil for US$7.45 billion.

Q3 2017 deal count - 73 and deal spend - US$35.8 billion – Q3 2017 activity was down 21% Q-o-Q, though Q3 2017 spend was up 40% Q-o-Q supported by the above two standout corporate deals which accounted for nearly one-third of the total Q3 2017 spend. Q3 2017 asset deal spend was US$11.9 billion, the lowest since Q1 2016. Beach Energy's acquisition of Origin Energy's wholly owned subsidiary Lattice Energy for US$1.25 billion was the largest Australia focused deal since 2015. Higher quality assets on the market are attracting buyers but the inventory of these assets is slowly shrinking and lower quality assets are not readily finding buyers.

Quarterly deal count North America vs. RoW



Quarterly deal spend* North America vs. RoW



North America M&A activity hit a multi-quarter low as deal activity in Permian waned out – North America Q3 2017 deal count (51) was down 22% Q-o-Q and Q3 2017 deal spend (US$9.4 billion) was down 52% Q-o-Q. Permian activity was significantly down with a spend of merely US$1.6 billion each quarter in Q2 and Q3 2017. Permian saw a record spend of over US$10 billion each quarter in Q3 2016 through Q1 2017. Halcon Resources' sale of Bakken assets for US$1.4 billion was this quarter's only billion-dollar transaction compared to average of six deals for US$19 billion spend over last four quarters.

Private equity backed firms continued their buying stance – Private equity backed firms bought unconventional oil as well as gas assets in the US. Arclight Capital backed Bruin E&P Partners bought Halcon Resources' Bakken oil assets for US$1.4 billion. Oakridge Natural Resources backed by Kayne Private Energy Income Fund bought QEP's Pinedale Anticline gas assets for US$740 million. Rockcliff Energy backed by Quantum Energy Partners bought gas assets in Haynesville, Bossier and Cotton Valley formations from Samson Resources for US$525 million.

Implied Long-Term Oil Price (ILTOP) - Valuations seem to be on the rise – The weighted average Implied Long-Term Oil Price increased from US$61/bbl in Q2 2017 to US$67/bbl in Q3 2017, skewed on a higher side by Total-Maersk deal which had an ILTOP of US$72/bbl. On a simple average basis, the ILTOP increased from US$62/bbl in Q2 2017 to US$64/bbl in Q3 2017.

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Strategic Themes Snapshot

Brent rose past $60/bbl to its highest level since July 2015 which will make the November OPEC, non-OPEC meeting especially sensitive. This quarter has seen BP delivering gas from Oman's Khazzan field ahead of schedule. This quarter also saw a number of acquisitions in the COG space; Total acquired Maersk to become the North Sea's second largest producer, Aker BP acquired Hess Norge to increase growth and CEFC bought into Rosneft to fulfil its strategic ambition of international expansion. Exploration success in Russia will yield substantial volumes. [Details]

Deepwater industry is emphasizing short-cycle, low risk prospects over high impact wildcat drilling as operators placed most bids close to existing hubs or appraised developments. This was particularly evident in the US GoM Lease Sale 249. Shell led the round with a total of 19 high bids and Total placed the highest bid. ExxonMobil established a considerable pre-salt position in Brazil by aggressively outbidding competitors in ANP Round 14. Statoil's 2 latest wildcats in Flemish Pass, East Canada were dry. Total made a low-cost entry into offshore Guyana and deepened its US GoM position through partnership with Chevron. BP has been allowed to pursue oil & gas business in Nigeria after being barred for more than 2 decades. [Details]

Global weighted refining margins gained 35% from Q2/17, helped by Rotterdam and US Gulf Coast (due to hurricane Harvey), and well supported by Singapore and US West Coast, which helped IOCs' earnings as well. Total and BP's earnings were further helped by strong marketing performance. Portfolio rationalisation continues with IOCs. This quarter was dominated by a flurry of M&A activities as regional players across the world increased their refining footprint. Chevron sold its South African Downstream business while European IOC's like BP and Total grew their Retail business. [Details]

Asian margins rose on demand strength in NE Asia while European margins slipped from the exceptional levels achieved last quarter. Exxon's Chemical ROACE continued a downward trend due to higher asset investments and reduced earnings and Dow saw a hit in its ROACE on account of its merger with Dupont. Exxon and Chevron announced significant cracker capacity coming online in 2018, Indian NOCs plan investments worth $35 bln and regional players in Asia and US are looking at expanding their petrochemicals portfolio. [Details]

Gas prices strengthened, except for the US where HH prices averaged $3/MMBtu (down $0.1/MMBtu) upon softer weather and healthy inventory levels ahead of winter. PTT bought a 10% stake in Petronas's MLNG T9. There was a significant increase in LT deal activity primarily centered around Africa and South Asia in Q3. [Details]

Continuous technology innovation drives improving well performance; the CAGR for rig productivity is 25%. Industry wide, the Y-o-Y drop in breakeven price averaged around 20% for assets below $60/3 (the majority). After the 2015 – 2016 inflection, tight oil production will grow at an annual rate of 0.5 mmbopd in 2017 and 1.15 in 2018 with the bulk of new production is in the Permian. Q3 M&A pace and spend decreased steeply from Q2 (65 vs. 51 deals and $20 bln vs. $8 bln). BHP has announced an exit from North American unconventionals. There is also quite some activity outside North America. [Details]

Statoil made its entry into solar sector by partnering with Norwegian Scatec Solar in a JV to build solar plants in Brazil. Total is stepping up in the renewables space through a stake in EREN and acquisition of GreenFlex. Mercedes Benz, Chargepoint and Vivint Solar announced the launch of their new product for the US market named 'Fully Integrated Solar'. In Q3, the announced addition of global Li-ion battery production capacity is said to double the existing levels. In Q3, the largest PPA auctions have been held for Spain (5000 MW), Germany (1013 MW) and Turkey (1000 MW) whereby the latter two focuses on Onshore wind. In this quarter, there was quite a lot of things happening in Connected Customer and Mobility section, defining the future of mobility. [Details]

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Strategic Themes Summaries

Conventional Oil & Gas

- **OPEC's resolve to be tested as Brent breaches $60/bbl:** As Brent rose past $60 to its highest level since July 2015 (at the time of writing), it makes the November OPEC – non-OPEC meeting particularly sensitive. While Saudi seems determined to prolong its production cuts in 2018 to further boost prices, the resolve of other producers will be tested, especially non-OPEC participants in the deal, such as Russia. In addition, shale activity will may be boosted in the coming weeks as a $60+ world could unlock greater supply, which will apply downward pressure on prices again.
- **BP begins delivering gas from Oman's Khazzan field**: Oman's under-supplied gas market received a boost as BP delivered first gas from the Khazzan field, ahead of schedule and under-budget. Phase 1 will achieve a plateau production of 1 bcfd in 2018 and Phase 2 will increase this to 1.5 bcfd by 2022. The gas will help increase production from Oman LNG, leading to an additional $900 mln in project value. It will also boost industrial demand, which will help create jobs which is a major issue for the country at present. The mid 2020s, however, will see the gas supply-demand balance tightening again unless new sources of supply are found.
- **Total gets more 'oily' with Maersk acquisition to become the North Sea's second largest producer:** Total bought Maersk Oil for $7.45 bln (shares + debt), giving Total access to Johan Sverdrup in Norway, Culzean in UK and the deepwater Jack field in GoM, among others. This will stem Total's production decline until the early 2020s. The deal will not significantly impact Total's ambition of become more gas-weighted in the long-term, as production from Maersk assets will peak in 2023 and gas will compose ~50% of Total's 2030 portfolio even with Maersk.

- **Aker BP continues inorganic growth with Hess Norge acquisition, while Hess continues streamlining portfolio:** Aker BP made its fifth corporate acquisition in 3 years, as it snapped up Hess Norge for $2 bln. The deal brings Aker BP's stake in the Valhall and Hod assets up to 100%. The deal value is higher than the value of the Norwegian portfolio to Hess, while it gives Aker BP the opportunity to extract upside from these familiar assets. The acquisition is another landmark in the rapid growth of Aker BP from a small independent E&P player to the fourth highest producer on the Norwegian Continental Shelf. Apart from this, Hess also sold its Equatorial Guinea business to Kosmos and Trident Energy for $0.65 bln. With these deals, Hess will hope to turn FCF positive sooner.
- **Russian frontier exploration yields substantial volumes:** Two giant offshore oil discoveries have been made in the Arctic and Far East in Russia in October 2017. Gazprom made Russia's largest discovery in the Ayashski block offshore Sakhalin. Initial in-place resources are estimated at 1.9 bln boe. Later in October, Rosneft announced the discovery of the Central Olginskoye field in the Laptev Sea of the Russian Arctic, with recoverable reserves estimated at 584 mln boe. These discoveries can boost production from Russia in the second half of the 2020s.
- **CEFC buys into Rosneft, becomes third largest shareholder:** Shanghai-based CEFC has purchased 14.16% of Rosneft for $9 bln, making it the third largest shareholder after the Russian state and BP. The stake was purchased from a Glencore-Qatar led consortium, which had purchased 19.5% in December 2016. The consortium was struggling to find lenders amid rising tensions between Russia and the West. The deal brings Russia and China even closer together, while also meeting CEFC's strategic ambition of international expansion in the energy sector.

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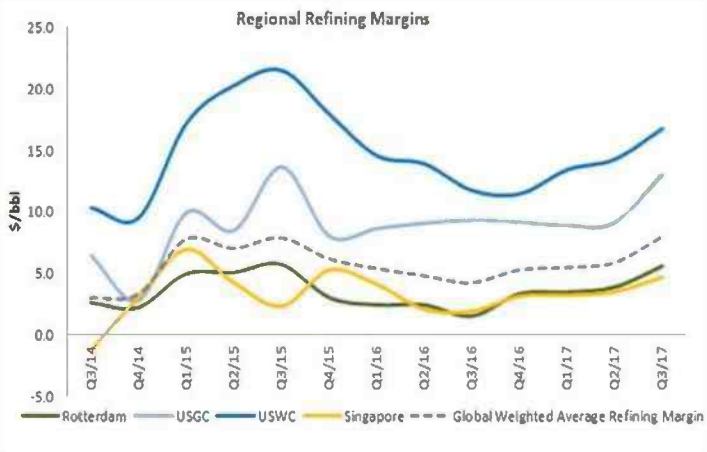
Oil Products

- **Unplanned outages in LatAm and Europe, and hurricane Harvey related shutdowns in US pushed up refining margins:** The global weighted refining margin gained 35% from Q2/17, helped by Rotterdam and US Gulf Coast, and well supported by Singapore and US West Coast. Gulf Coast margins were supported by outage at Pemex's Salia Cruz and heavy refinery shut downs in the Gulf Coast because of hurricane Harvey which reduced capacity in the region by about a quarter. European margins were aided by unplanned shutdown at Shell's Pernis refinery and increased transatlantic arbitrage due to increased US demand following the hurricane. Asian margins went up by 34% supported by outage at India's 300kbd Mangalore refinery and increased exports to the US.



Source: Oil Markets Analysis Team

- **IOCs' earnings benefitted from firming up of refining margins across the regions; Total and BP were further helped by a strong marketing performance:** BP saw its earnings jump up by 63% y-o-y due to improved refinery margins, stronger trading and supply contribution and growth in fuels marketing. Exxon leveraged higher European and Asian refining margins to boost earnings by 30% y/y, which were partly offset by lower Gulf Coast refinery availability because of hurricane Harvey. Total's refining & chemicals earnings increased 11% y-o-y helped by higher European and Asian refining margins while strong marketing performance bumped up retail earnings by 14% y-o-y. Chevron posted a 7% y-o-y downstream earnings growth riding on higher USWC and USGC refining margins and improved US marketing margins.
- **Chevron sold its South African Downstream business, BP expanded its convenience retail and Total became the 4th IOC to enter the high growth Mexican Retail business:** Chevron sold its downstream South African assets to Glencore and the deal is expected to be completed in 2018. It also closed the sale of its Canadian refining, and fuels marketing business this quarter. BP rolled out Convenience Retail to more than 170 retail sites worldwide so far, this year. Its transaction with Woolworth is likely to close by Q2 2018. In Lubricants, BP renewed its global partnership and supply agreement with Volvo Car Group. After Exxon and BP, Total announced its entry into the Mexican retail business this quarter.
- **This quarter was dominated by a flurry of M&A activities as regional players across the world increase their refining footprint; Glencore and Parkland pounced upon Chevron's Downstream assets:** Rosneft and partners closed their $12.9 bln purchase of Indian refiner Essar Oil. They purchased a 98.26% stake in Essar Oil in a deal announced in October 2016. Andeavor Logistics will acquire Western Refining Logistics for $1.5 bln as it seeks to expand into the Permian Basin in Texas and New Mexico. Husky Energy will buy a 50kbd Wisconsin refinery in the United States from Calumet Specialty Products Partners for $435 mln in cash. Lukoil is seeking to sell its ISAB oil refinery complex in Italy as part of the Russian firm's review of its overseas operations. ISAB complex includes two refineries connected by pipeline with capacity to process about 320 kbpd of oil, and storage tanks with 3,700 thousand cubic metres capacity and three marine terminals. Glencore will pay $973 mln for a 75% stake in the Chevron's South African business which is the second largest supplier of petroleum products in South Africa with a market share of 19%. Chevron's assets include a 100,000 b/d refinery in Cape Town and 820 petrol stations. Parkland announced

closing of the acquisition of Chevron Canada's fuel business on 1st October 2017. In April 2017, Parkland had agreed to acquire Chevron's gasoline stations and a refinery in British Columbia for $1.09 bln.

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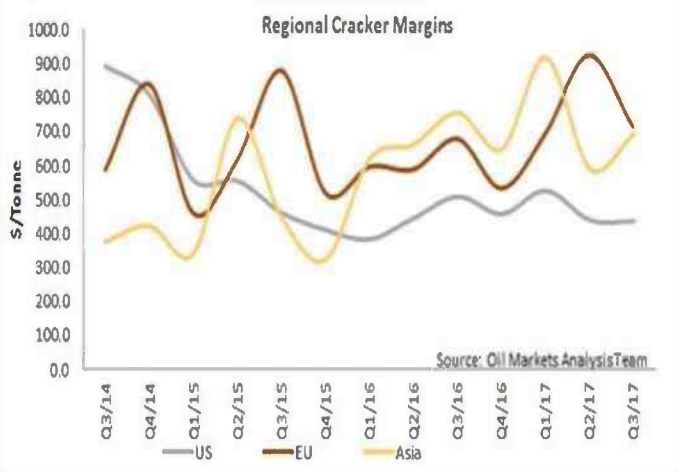
Chemicals

- **Asian margins rose on demand strength in NE Asia while European margins slipped from exceptional levels achieved last quarter:** In Q3/2017, margins in Asia rose 17% on demand strength in NE Asia and some supply issues. Prices were high enough at one point for S. Korean and SE Asian producers to export ethylene to NE Asia. Cracker margins in Europe fell by 23% from the exceptionally high levels of Q2/17. Demand remained strong as the usual seasonal dip did not materialise and margins remained high supported by global tightness. US cracker margins hardly changed as ethylene prices remained flat amid a sluggish demand. Cracker margins rose sharply in September after Hurricane Harvey.



- **Exxon's Chemical ROACE continued a downward trend due to higher asset investments and reduced earnings, Dow saw a hit in its ROACE on account of its merger with Dupont:** Exxon reported Chemicals earnings of $1092m, a deterioration of $79m y-o-y owing reduced commodity margins and hurricane impacts partly offset by volume growth. Exxon's ROACE was impacted by investments in Mont Belvieu polyethylene expansion and the acquisition of Jurong Aromatics Corporation, Singapore pushing up capital employed by ~$1.1bn. For Dow, Q3/17 results reflect consolidated performance of Dow Dupont following the recent merger (31st Aug'17). Dow's earnings, however, reflect a 10% increase y-o-y driven by consumer led volume growth, pricing gains and higher Kuwait JV performance; partly offset by higher feedstock costs and US hurricane impact. LBI's earnings for Q3/17 were $1.1bn, marginally ahead of last year driven by higher Intermediate and Derivative performance in addition to ongoing strong Olefin performance in Europe and Asia, despite weaker Olefin spreads in the US.
- **Exxon and Chevron see strong growth opportunity in petrochemicals, announce significant cracker capacity coming online in 2018; BP's divestment of SECCO to complete by year end:** ExxonMobil completed the acquisition of aromatics facilities located in Singapore, from Jurong Aromatics Corporation Pte Ltd. This acquisition will provide operational and logistical synergies between the plant and its integrated refining and petrochemical complex, and increase ExxonMobil Singapore's aromatics production to over 3.5mtpa. Exxon announced that its San Patricio cracker, with estimated capacity of 1.8mtpa, is expected to enter FEED stage soon and is well positioned to take advantage of Permian and Eagle Ford feedstock. Exxon's 1.5mtpa Baytown steam cracker is expected to come online by 1H 2018 while the first (of two) polyethylene trains of 650kt was started at Mont Belvieu. Chevron's Cedar Bayou ethane cracker in Baytown having a capacity of 1.5mtpa is expected to come online in 2018. BP announced the divestment of 50% shareholding in Shanghai SECCO Petrochemical Company Limited joint venture in China expected to complete in Q4/17.
- **Indian NOCs plan investments worth $35 bln to meet local needs and regional players in Asia and US look to expand their petrochemicals portfolio, announcing new projects:** India's state oil refiners are planning to invest $35 bln into petrochemicals to meet an expected surge in demand for goods. Sadara Chemical has successfully started up the Saudi Arabia's first Polyols plant in July 2017. The polyols plant is one of the last of Sadara's 26 chemical facilities to start up that will produce specialty chemicals never produced before in Saudi Arabia. Saudi Aramco has abandoned its original plan to list its $20 bln Sadara petrochemical joint-venture company with the US's Dow Chemical on the Saudi stock exchange. PTT Global Chemical Pcl, Thailand's largest petrochemical producer, is investing in a $900 mln polyols facility with two Japanese partners - Sanyo Chemical Industries and Toyota Tshusho Corporation, Toyota's trading arm, called GC Polyols. The plant, is to be located in the eastern province of Rayong, will have the capacity to produce 130mtpa of polyether polyols and PU system of 20mtpa. It will be operational in 2020. LyondellBasell announced the final investment decision to build the world's largest propylene oxide (PO) and tertiary butyl alcohol (TBA) plant in the Houston area. The project is estimated to cost approximately $2.4 bln with expected capacity of 1 bln pounds of PO and 2.2 bln of TBA per annum.

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Integrated Gas

- **Gas Market Prices:** Gas prices strengthened, except for the US where HH prices averaged $3/MMBtu (down $0.1/MMBtu) upon softer weather and healthy inventory levels ahead of winter. In Europe, NBP gas prices averaged $5.4/MMBtu (up $0.6/MMBtu), due to weak indigenous supply and inventory demand on the continent. In Asia Pacific, JKM LNG spot prices averaged $6.6/MMBtu, up $1.1/MMBtu, driven by demand for inventory and air conditioning.

- **LNG Projects:** Fortuna FLNG is likely to be the next (and last) FID of 2017, after awarding its entire offtake to Gunvor. It is still waiting to close Chinese financing. In Canada, Aurora LNG (24MTPA) was cancelled after partners cited a difficult external environment, and Woodfibre (2.1MTPA) delayed. In the US, Sabine Pass T4 started production, while other US projects made regulatory progress: Cove Point received its FERC approval for commissioning and Jordan Cove resubmitted its FERC application for the 3rd time. Tellurian put a new offer to potential customers to buy 60-75% equity in Driftwood in return for receiving LNG at cost. In Australia, Wheatstone T1 started production, while in Russia, Novatek secured new license areas for Arctic-2.
- **M&A/JV:** PTT bought a 10% stake in Petronas's MLNG T9 while Fortum made a binding bid of $9.5B for Uniper shares to become a controlling shareholder, with particular interest in hydro and nuclear in Sweden and gas plants in Russia. In the pipeline space, Gazprom created a JV with Botas to progress the Turkstream pipeline project.
- **Key LNG Deals:** A significant increase in LT deal activity primarily centered around Africa and South Asia in Q3. Fortuna FLNG moved closer to FID by awarding its entire 2.2MTPA to Gunvor (up to 1.1MTPA can be marketed flexibly); Gazprom sold ~1.7MTPA for 12yrs to Ghana's GNPC, while Angola LNG signed binding tenders with traders including RWE, Glencore and Vitol. Mozambique LNG progressed its deal with the PTT board approving an LT SPA for 2.6MTPA while the Equatorial Guinea government also signed G2G deals with Ghana and Burkina Faso. Petrobangla signed its first deal with RasGas, along with 3 MoUs with Pertamina, Oman LNG and Gunvor to diversify supply. In India, Petronet renegotiated its 20yr Gorgon contract with XOM, taking on an additional 1MTPA in return for lower prices. In the US, Calcasieu Pass signed a 1MTPA with Edison for 20yrs, the first sale progressing a US project since the CELSE-XOM deal more than a year ago (linked to Golden Pass)

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Deepwater

- **Operators focus on near infrastructure blocks during US GoM Lease Sale 249:** The deepwater industry is emphasizing short-cycle, low risk prospects over high impact wildcat drilling as operators placed most bids close to existing hubs or appraised developments. Shell led the round with a total of 19 high bids. Total placed the highest bid. Private equity backed LLOG bucked the trend for smaller players by continuing to expand its foot print, albeit slowly. All LLOG's bidding strengthens its current modus operandi of finding small discoveries, utilizing existing infrastructure and quickly bringing projects online. In all, the lease sale received a total of 99 bids from 27 participating companies, with high bids totaling US$ 121 million. Activity was down by ~50% compared to the Lease Sale 247 held in March 2017.
- **ExxonMobil establishes a considerable pre-salt position in Brazil by aggressively outbidding competitors in ANP Round 14:** ExxonMobil outbid it competitors by a significant margin by offering the highest signature bonus ever made in Brazil. It's the only Major to have won and acquired 10 deepwater blocks, 6 of which lie in the Campos Basin and have identified pre-salt leads. ExxonMobil is now the 4th largest offshore acreage holder in Brazil, after Petrobras, QGEP and Shell. The major's aggressive bidding indicates its determination to make Brazil a core part of its business which has long been identified as a major gap in its portfolio. ExxonMobil leveraged partnerships with Petrobras, QGEP and Murphy to build leading positions in Campos and Sergipe Basin, which were the ones that attracted the most interest.
- **IOCs' Counter-cyclical deepwater exploration wells in frontier regions unsuccessful:** Statoil's 2 latest wildcats in Flemish Pass, East Canada were dry. The wells were understood to be potential subsea tiebacks to the Bay du Nord development. Their failure implies a reduction in optionality for the project. This, coupled with the major disappointment of the highly anticipated shallow water Korpfjell prospect in the Barents Sea, has put a significant dent in Statoil's global exploration efforts. Providence's 2 wildcats in Porcupine Basin, Ireland, were not successful, making it unlikely for either Cairn or Total to exercise their additional farm-in options. Lastly, Total and Eni's highly anticipated Onesiphorous-1 well in Block-11, Cyprus, found less than 1 Tcf of gas. It was unable to prove an extension of the giant Zohr gas field from Egypt into Cyprus.
- **Price downturn forces most independents to retreat from deepwater, but the remaining ones make impressive strides:** Following a successful 2017 appraisal campaign, Cairn revised the 2C resource estimates for the SNE oil field, offshore Senegal, up to 563 mmbbl. The company has announced that it has started the detailed planning work for a phased development of the field. The 1st phase seeks to develop 240 mmbbl with the FID expected in 2018. LLOG will be progressing Buckskin, in the US GoM, as a tie-back to Anadarko's Lucius spar and plans to begin drilling in Q4 2017. It is believed that the independent has been able to leverage standardization, supplier relationship and a weak rig market, to successfully reduce project costs. Previous operator Chevron exited the project in late 2015 citing it as uncompetitive.
- **Exploration options provide Total a low-cost entry into offshore Guyana:** Total agreed to pay US$ 1 million for an option to buy a 25% stake in an oil exploration block offshore Guyana. According to Eco Atlantic Oil & Gas, the Major now has the option to acquire stake in the Orinduik Block for another US$ 12.5 million following the analysis of recently collected 3D seismic data. If the option is exercised the deal proceeds will recoup all expenses on the expanded 3D program and fund drilling a minimum of two wells based on current well costs.
- **Total deepens its US GoM position through partnership with Chevron:** Total agreed to participate in seven prospects operated by Chevron in the deepwater GoM. The agreement, together with the recently announced participation in the Jack field as part of the Maersk Oil acquisition, increases Total's footprint in the US GoM. It expands a successful co-ownership with Chevron already in place on the Tahiti field. As a continued effort to high-grade its portfolio, Total won six offshore exploration licenses in the August Lease Sale. Total seeks to sharpen its long-

term focus by increasing its exposure to deepwater exploration. The acquisition of Maersk Oil, although beneficial, did not address Total's long-term growth challenge. The major is expected to focus on accessing long-life, low-cost resources, while continuing to high-grade its portfolio.

- **Statoil continues to move counter cyclically to consolidate its frontier deepwater position:** Statoil has acquired participating interests in 2 additional frontier blocks in offshore South Africa, including one operatorship. It completed transactions with ExxonMobil for 35% stake in Transkei-Algoa license and OK Energy for 90% interest and operatorship in the East Algoa license. These transactions strengthen Statoil's position in South Africa and their long-term exploration portfolio in line with their strategy of accessing high potential basins early. The company entered its first license in South Africa in 2015, acquiring a 35% interest in ExxonMobil operated Tugela South license.
- **BP allowed to pursue oil & gas business in Nigeria after being barred for more than 2 decades:** BP entered into a $US 10 million revolving pre-payment facility and commercial offtake agreement for the sales of crude oil produced from Ororo offshore field with Sirius Petroleum. The pre-payment facility will be conditional upon the Ororo field achieving certain daily production levels, which are lower than the flow rates previously achieved by Chevron on Ororo 1. What remains to be seen if this deal will allow BP to re-enter the upstream industry in Nigeria, particularly deepwater, after being barred for more than 2 decades.

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Shales

- **Value Over Volume:** Companies are emphasizing returns over production growth in a drive for positive cash flow and self-funding. This improved capital discipline is leading to stronger Q3 results; pure play share price declines have flattened but are still widely trading below implied valuations from recent M&A deals. Bankruptcies are down and US Independents' gearing has dropped from 50% to 30%. Equity inflow has slowed but 2017 capex investment increased over 2016 ($68 bln vs. $48 bln), perhaps at the expense of M&A.
- **Continuing Improvement:** Continuous technology innovation drives improving well performance; the CAGR for rig productivity is 25% (also however partly due to high-grading). This offsets upward pressure on service costs due to inflation and more aggressive completions. The Permian and Niobrara continue to move down the oil cost of supply curve with the Bakken at the higher end and the SCOOP / STACK and Eagle Ford in between. Industry wide, the y-o-y drop in breakeven price averages around 20% for assets below $60/3 (the majority).
- **Rebounding Production:** After the 2015 – 2016 inflection, tight oil production will grow at an annual rate of 0.5 mmbopd in 2017 and 1.15 in 2018 (12 and 23%; Rystad Energy); the bulk of new production is in the Permian. For unconventional gas production growth is 4.1 bcfd in 2017 and 11.3 in 2018 (5 and 14%). The currently commercial well inventory is < 25% drilled and < 15% produced, and likely to keep growing. Pipeline capacity appears to be keeping up with production growth in the Permian and Appalachia. The low cost associated and shale gas surplus continues to suppress Henry Hub / AECO while potentially boosting US LNG competitiveness.
- **Resource Growth:** The North American unconventional resource base is still expanding, if more slowly than the first half of the last decade. For breakeven prices < $80/4, remaining resources went from 111 billion bbl oil and 1425 tcf gas in mid-2016 to 126 billion bbl oil and 1540 tcf of gas in mid-2017 (13.5 and 8% increases). Growth is not over; in Q3 the Permian and STACK continue to expand vertically through derisking of additional horizons; Apache is proving the Alpine High extension; EOG pushed the SCOOP eastward; a first test in the Mancos shale (San Juan basin) IP'ed at 10 mmcfd for BP. EOG is also pioneering a 100 well EOR program in the Eagle Ford with miscible natural gas injection (30-70% uplift in EUR at an additional cost of $1 mln per well), a first for shale oil.
- **M&A:** Q3 M&A pace and spend decreased steeply from Q2 (65 vs. 51 deals and $20 bln vs. $8 bln). Access costs remain in the range of $1-4/boe; Q3 acreage costs decreased slightly in the Permian ($38k/acre to $27k/acre). On the oil side, Halcon and Whiting sold Bakken Forth Berthold acreage to focus on core holdings in the Permian and elsewhere in the Williston ($1.4 bln and $500 mln), while Silver Run II acquired Alta Mesa Holdings for its SCOOP / STACK ($1.4 $bln; all 3 sales were to private equity). On the gas side Q3 M&A activity also fell, with spend down to $2.0 bln from $13.8 bln. Gas deals include the acquisition of Rice Energy by EQT to consolidate its Marcellus and Utica land position for longer laterals ($1.5 bln). In other examples of refocusing, Noble Energy exited Appalachia via sale to HG Energy to concentrate on the Delaware ($1.2 bln and QEP divested Pinedale to Oak Ridge to focus on the Midland ($740 mln; once again both buyers are private equity).
- **Competitor Activity:** BHP has announced an exit from North American unconventionals with a $7.5 bln divestiture of Delaware and Eagle Ford (tight oil) and Haynesville and Fayetteville (shale gas). Petronas' Pacific Northwest $27 bln LNG export project in British Columbia has been cancelled, while Shell and partners are still weighing the $40 bln LNG Canada project and the smaller ($2.1 bln) Pacific O&G Woodfibre project announced FID in July. A court ruling kept the Obama era methane emission rule alive in the US.
- **Outside North America:** In Argentina activity ramps up in the Vaca Muerta with investment commitments in 2017 of $5 billion. Statoil entered Baja del Toro and Schlumberger Bandurria Sur. Shell greenlighted development at Bajada de Añelo ($450 mln over 5 years), and BP, Total and Wintershall another $1.15 bln at Aguada Pichana. (All of these are in JV with YPF.) In China Sinopec is developing shale gas at Fuling with IPs reaching 7 mmcfd and year end production of ~ 1 bcfd. Saudi Arabia is in initial development of unconventional gas at the Jalamid field for off-grid power generation of 1 GW; the production goal is 0.3 bcfd. The Mexico bid round (Ronda 2.4) with limited onshore unconventional blocks is in progress with bid submission in December 2017; a follow-up round (3.2) opens in January. BP began LNG exports from the Khazzan tight gas development in Oman. In Russia Russneft tested the Bazhenov

at Sredneshapshinskoye with an IP of 730 bopd. The UK is set for its first Bowland horizontal shale gas test but Ireland has banned hydraulic fracturing. Australia will control LNG exports to prevent internal shortfalls.

- **Impact on Global Prices:** Rapid response time (4-6 months spud to sales for new production) and high remaining well count can add 1 to 1.5 million bopd per year to the global supply at breakeven prices < $50/bbl. This may keep oil prices range bound between ~ $45 and $55/bbl Brent for the next several years.

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New Energies

Player Activities - Fossil Peers:

- Next to their ongoing offshore wind activities (based on both fixed structures and floating), Statoil has now taken its first step into the solar sector by partnering with Norwegian Scatec Solar in a JV to build several large scale solar plants in Brazil (40% share of a the 162 MW Apodi farm).
- Total is stepping up in the renewables space through a stake in EREN (23% for 237.5mln euros), and the acquisition of GreenFlex (no deal value given, but indicated as the linchpin of its growth in the energy efficiency industry). The deals are seen as a major step to achieving their target of 5GW of installed capacity in 5 years.

Player Activities – Power Peers:

- AES Corp and Canada's Alberta Investment Management Corp have finalised their 1.6bln USD acquisition of US renewables company FTP Power LLC, also known as sPower, from private investment firm Fir Tree Partners. sPower owns and operates utility-scale and commercial distributed generation systems across 11 US states. Its portfolio includes 1.3 GW of solar and wind farms in operation or under construction. Its development pipeline, consists of additional 10+GW capacity.
- Utility giant American Electric Power Co. is seeking the necessary approvals from Arkansas, Louisiana, Oklahoma and Texas to buy the 2GW Wind Catcher farm from developer Invenergy LLC as part of its plans to invest 4.5bln USD in a massive wind farm spread and a new transmission line in Oklahoma.
- Itron agreed to acquire Silver Spring Networks for 759mln USD, a transaction that combines two rival smart-meter and electric-grid technology companies.
- Mercedes Benz, Chargepoint and Vivint Solar announced the launch of their new product for the US market named 'Fully Integrated Solar'. The product combines solar PV, electric vehicle charging and home battery with an intelligent energy management system to integrate clean energy products. The product offering competes with a.o. Tesla's Powerwall and Solar Roof.
- In August China Energy Investment Corp., the world largest power company, was formed through a combination of Shenhua Group Corp., China's largest coal miner, and China Guodian Corp., key renewable player. Post-merger, the new entity has 23% of its generation fleet coming from wind, solar, and hydro. According to Wood Mackenzie a wave of massive utility company consolidations has started in China which could fundamentally reshuffle the power utility landscape.

Power Generation & Storage

- The global annual production capacity of solar PV is on track to grow to a 100 GW generation capacity in 2017 according to IHS. For this year the growth of utility scale solar demand is expected to be twice as high as commercial and residential PV combined. The trend is that this difference will keep increasing.
- In Q3, the announced addition of global Li-ion battery production capacity is said to duplicate the existing levels. Only a fifth of this production capacity is planned to be installed outside of Asia (incl. Tesla Inc. in US and LC Chem Ltd. in Poland; excl. Northvolt AB's ambition in Sweden). 70% of the current Li-ion battery demand comes from consumer applications. The expectation is that battery demand for electric vehicles will take over as the largest demand sector as of ~2021.

Policies and Financing

- The global annual renewable generation capacity installed through corporate PPA's for 2017 is not expected to exceed the 2015 peak of 5.6GW (off which 4.4 in the Americas). The Americas 2017 YTD activity level is 2.4 GW. EU 2017 YTD numbers are 2.8GW, increasing from 0.8 GW in 2015).
- In Q3, the largest PPA auctions have been held for Spain (5000 MW), Germany (1013 MW) and Turkey (1000 MW) whereby the latter two focuses on Onshore wind.
- Including Q3 some 96 bln USD of Green Bonds have been issued globally in 2017 with an expected total for 2017 of 135bln USD according to BNEF (note that no clear rules on what 'green' means are agreed). The total global value of Green Bonds in 2016 was 99bln USD (source BNEF).

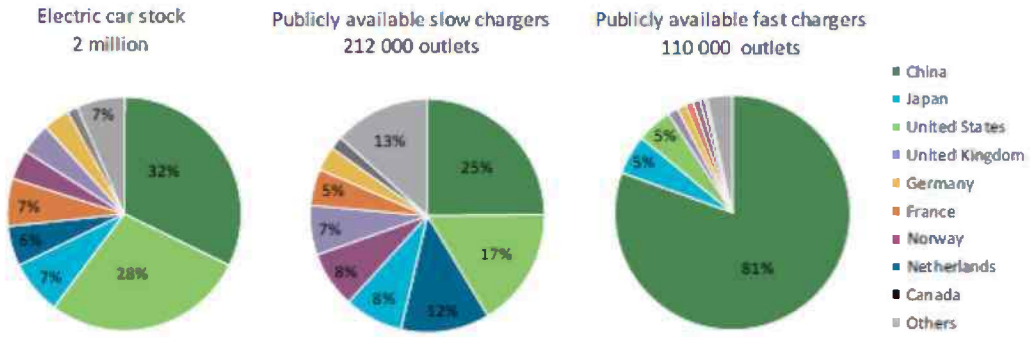
Electrification:

- Renewables accounted for a record of nearly 30% of the UK electricity generation mix during Q2 (22.5 TWh).
- The EU has committed member states to an electrical smart meter roll out target of 80% by 2020 but the actual implementation is moving slowly, with the UK behind on the implementation and countries like Germany, Slovakia and Latvia having opted for a selective rollout (Germany only 23% by 2020).
- For the overall EU a 2020 target of 72% is still expected to be possible. In comparison: ~70% of the US households (~90mln smart meters) are expected to have a smart meter by 2020. In 2017 some ~70mln smart meters will have been installed in US households.

Connected Customer and Mobility:

- During Q3 numerous predictions have been released for the uptake of EV's. All showed a faster uptake than previous predictions with some to over 50% of the expected 120 million light duty vehicle sales by 2040 (BNEF). For 2020, EV uptake is by some expected to go up to 8mln vehicles on the road, with an equal share between the US, EU (incl. UK) and China of ~2.6 mln EV's.
- The majority of car brands have announced the introduction of new electrical models. A growing share of the global number of electric vehicle models (already ~90 out of ~150) are BEV(Battery Electric Vehicles) models indicating that less emphasis on PHEV (Plug-in Hybrid Electric Vehicles with ICE engine).
- Car manufacturers (like GM) are seen to acquire IT and sensor-tech firms (acquisition of Strobe), while technology companies like Intel are securing positions favourable to play in an automotive industry (acquisition of Mobileye) that is fast moving towards autonomous vehicles.
- The combination of the electrification and (expected) autonomous vehicles trend could transform mobility business models (ownership). Market experts (RethinkX) indicate this could lead to a strong drop in the overall revenues from the car value chain per passenger mile (<66%). As a result, significant changes are expected in the automotive industry with players actively changing and extending business models to survive.

• **Electric car stock and publicly available EVSE outlets, by country and type of charger, 2016**



Sources: IEA analysis based on EVI country submissions, complemented by EAFO (2017a).

Key point: Electric cars still outnumber public charging stations by more than six to one, indicating that most drivers rely primarily on private charging stations. Publicly available EVSE shares are not evenly distributed across markets. This is consistent with the early stage of electric car deployment.

(EVSE = Electric Vehicle Supply Equipment)

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IOC Earnings Summary

Q3/17 Results Highlights

- **Q3/17 reported net income** of $2.0 billion for Q3/17, compared to $1.3 billion in Q3/16. Included in the quarter was a gain on an asset sale of $675 million and charges associated with an asset write-off of $220 million. Foreign currency effects decreased earnings in 2017 third quarter by $112 million, compared with an increase of $72 million a year earlier.
- **Upstream earnings** in Q3/17 were $489 million vs. $454 million in Q3/16. U.S. upstream incurred a loss of $26 million vs. a loss of $212 million in Q3/16, the improvement reflected from higher crude oil realizations. International upstream earnings were $515 million in Q3/17 compared with $666 million a year earlier. The decrease in earnings was mainly due to higher depreciation expense including the effect of catch-up depreciation for Bangladesh operations (Chevron no longer intends to sell) and an asset write-off. Also contributing were higher tax expenses and the absence of an Ecuador arbitration award. More than offsetting these items were higher crude oil and natural gas realizations, higher natural gas and crude oil sales volumes, and higher equity income from the absence of TCO royalty expense. Foreign currency effects had an unfavourable impact on earnings of $249 million between periods.

Metric	Unit	Q3/16	Q4/16	Q1/17	Q2/17	Q3/17
Reported Earnings	*m USD*	1,283	415	2,682	1,450	1,952
Clean Earnings	*m USD*	993	415	2,082	1,720	1,497
Cashflow from Operations	*bn USD 4Q rolling sum*	13.5	12.8	15.6	18.1	18.2
Capital Investments	*bn USD 4Q rolling sum*	25.9	22.7	20.6	19.6	18.9
Divestments	*bn USD 4Q rolling sum*	2.5	2.8	4.8	3.9	5.4
Upstream Production	*kboe/d*	2513	2669	2676	2780	2717
Upstream Clean Unit Earnings	*USD/boe 4Q rolling avg*	(1.1)	0.2	2.6	3.2	3.6
OP Clean Unit CCS Earnings	*USD/boe 4Q rolling avg*	3.0	2.4	2.5	2.9	3.05

- **Production** in Q3/17 of 2,717 kboe /d grew by 8% y-o-y, driven by increases from major capital projects including Gorgon and Angola LNG, and lower planned turnaround effects at Tengizchevroil. In U.S., production increases in the Permian and base business in the Gulf of Mexico, were offset by asset sales of 67 kboed and normal field declines.
- **Downstream earnings** in Q3/17 were $1.8 billion, up 70% y-o-y. U.S. downstream earnings were $640 million compared with $523 million a year earlier primarily due to higher margins on refined product sales. International downstream earnings were $1.2 billion, compared to $542 million in Q3 2016. The increase in earnings was largely due to higher gains on asset sales, primarily from the sale of the company's Canadian refining and fuels marketing assets. Higher operating expenses and lower margins on refined product sales were partially offsetting in international downstream earnings. Foreign currency effects had a favourable impact on earnings of $19 million between periods.
- **Capital and exploratory expenditures** in Q3/17 were $4.5 billion vs $5.2 billion in Q3/16 (inclusive of expenditures by affiliates), down 14%y-o-y. At current run rate spending, full year C&E is expected to be <$19 billion.
- **Q3/17 Cash Flow from Operations** of $5.4 billion. Cash flow after dividends including asset sales is $2.8 billion (asset sales were $2.3 billion). Cash and equivalents were $6.7 billion at end of Q3, down $0.3 billion vs. year-end 2016. Total debt was $42 billion, down 9% vs. year-end 2016. Net-debt ratio stands at 19%, and 22% on total-debt basis. Dividend payout in Q3/17 was $2 billion, or $1.08/share.

Q3/17 Milestones and Strategic Progress

- **CEO succession:** Mike Wirth, who is currently vice chairman of the board and executive vice president of Midstream and Development, succeeds John S. Watson, who will retire from the company and its board on February 1, 2018. Watson described Wirth as "great at grinding returns out of the business, but also very balanced in his capabilities".
- **Divestments:** YTD asset sales proceeds stand at $4.9 billion, which includes Indonesia geothermal, Canada refining & fuels marketing, mid-continent fields, GoM shelf, Trinidad & Tobago and Indonesia offshore. Chevron is now retaining Bangladesh and expects its South Africa R&M sale in 2018. Divestment proceeds 2016-2017 YTD at $7.7 billion (within $5-10 bln target range). Chevron expect no significant asset sales in Q4/17.
- **Gorgon/Wheatstone:** On Gorgon "the 3 trains are currently averaging well above nameplate capacity; as we fine tune the plans to enhance reliability and improve volumes, we'll likely have intermittent downtime on other occasions**".** On Wheatstone, start-up announced on Oct. 9th & currently ramping-up at 65% capacity; expect Train 2 in Q2 2018.

Key Messages and Outlook

- **Permian**: Q3/17 net production at 187 kboe/d, up 30% y-o-y (and targeting approx. 450 kboe/d by 2021). Currently has 15 operated rigs. In 2017, these unconventional wells are delivering >30% IRR. Currently Permian wells are being developed with 10,000-foot laterals with expected average recovery of about 1.9 million barrels per well with $14 per barrel capital, operating and overhead expenditures. At $50 a barrel WTI, $2.50 Henry Hub and $25 a barrel NGLs, revenue from oil condensate and gas trains will weight average of $33 per barrel.
- **Watson legacy:** Chevron highlighted their leading TSR delivered amongst peer group during Watson's tenure & leaving the company well-positioned for future with cash flow at an inflection point with a sustainable and resilient upstream portfolio centered in Permian & other shales in Australia & Kazakhstan, and with a downstream offering high ROCE.

Market Reaction

- ***Citi:*** *"CVX 3Q17 earnings were to some extent noisy, with CFFO impacted by discretionary pension contributions and a change in security on an asset sale. The suggestion is that the underlying CFFO is higher, supporting the case that new high-margin growth from asset ramps (Gorgon and now Wheatstone) is now firmly in place."*
- ***Morgan Stanley:*** *"CEO Watson's successful tenure ends, as CVX's portfolio pivots from higher capex and organic growth to lower growth, higher return, and a shorter cycle model"*

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ExxonMobil Q3/17 Results Highlights

- **Clean earnings** for Q3/17 were $3.9 billion, up 47% y-o-y.
- **Upstream reported earnings** were $1.6 billion, up $947 million vs. Q3/16. Higher liquids and gas realizations increased earnings by $860 million and higher volume & mix effects increased earnings by $20 million. All other items increased earnings by $70 million as lower expenses were partly offset by unfavorable foreign exchange effects. U.S. Upstream results were a loss of $238 million in Q3/17, compared to a loss of $477 million in Q3/16. Non-U.S. Upstream earnings were $1.8 billion, up $708 million from Q3/16.
- **Production** increased by 2% y-o-y. Liquids production totaled 2.3 mmbd, up 69 kbd from Q3/16 as lower downtime and higher project volumes were partly offset by field decline. Natural gas production was 9.6 bcfd, down 16 mmcfd from Q3/16 as field decline and lower demand were partly offset by project ramp-up, primarily in Australia, and work programs.

Metric	Unit	Q3/16	Q4/16	Q1/17	Q2/17	Q3/17
Reported Earnings	*m USD*	2,650	1,680	4,010	3,350	3,970
Clean Earnings	*m USD*	2,650	3,185	3,780	3,282	3,890
Cashflow from Operations	*bn USD 4Q rolling sum*	19.1	22.1	25.5	27.8	29.9
Capital Investments	*bn USD 4Q rolling sum*	21.9	19.3	18.3	17.1	18.9
Divestments	*bn USD 4Q rolling sum*	3.0	4.3	4.8	3.9	3.8
Upstream Production	*kboe/d*	3,811	4,121	4,151	3,922	3,878
Upstream Clean Unit Earnings	*USD/boe 4Q rolling avg*	1.1	1.5	3.0	3.7	4.2
OP Clean Unit CCS Earnings	*USD/boe 4Q rolling avg*	1.8	1.7	1.7	2.0	2.3

- **Oil Products reported earnings**were $1.5 billion, up $303 million from Q3/16. Higher refining margins increased earnings by $1Bn whereas volume & mix effects decreased it by $160 mln. All other items decreased earnings by $550 mln, reflecting the absence of favorable asset management gains of $380 mln in 2016 from sale of Canadian retail assets

and higher expenses due to Hurricane Harvey. US. Oil Products earnings were $391 million, up $166 million from Q3/16 and Non-U.S. earnings were $1.1 billion, up $137 million from Q3/16. Petroleum product sales of 5.5 mmbd were 43 kbd lower y-o-y.

- **Chemicals reported earnings** in Q3/17 were $1.1 billion, $79 million lower vs. Q3/16. Weaker margins decreased earnings by $200 million. Volume and mix effects increased earnings by $120 million. U.S. Chemicals earnings of $403 million were $31 million lower than Q3/16. Non-U.S. Chemicals earnings of $689 million were $48 million lower than prior year. Q3/17 prime product sales of 6.4 mt were 313 kt higher y-o-y, despite Hurricane Harvey impacts.
- **Financial framework:** Q3/17 Capex was $6 billion, up 43% y-o-y. Q3/17 CFFO & asset sales were $8.4 billion (asset sales at $0.9 billion). FCF was $5 billion vs. shareholder distributions of $3.3 billion. Net debt at end of Q3/17 was at $36.3 billion. Gearing is at 16% in Q3/17 versus 19% in Q3/16. Q4/17 dividend declared at 77 cents per share, the same level since Q2/17. No share buy-backs planned in Q4/17.
- **Q3/17 Milestones and Strategic Progress**
- **Brazil:** Won 10 blocks in the September bid round and completed a farm-in on 2 additional blocks. XOM also won North Carcara (with Statoil as operator) in Round 2, which XOM announced live during the results call.
- **Guyana:** fifth new oil discovery with the Turbot-1 well, encountered 23m oil-bearing sandstone and proved a new play.
- **Permian:** acquired a crude oil terminal in Wink, from Genesis Energy LP. The terminal is located in the Delaware Basin and is interconnected to the Plains Alpha Crude Connector. Additionally, XOM added 22,000 acres to its Permian Basin portfolio since May, via 5 acreage transactions, for an implied (ie. from cash and trades) cost of about $20,000 per acre. XOM currently has 20 rigs in the Permian and will continue to ramp up to approximately 30 operated rigs by year-end 2018. XOM is forecasting net production from Delaware, Midland at Bakken at approx. 800 kboe/d in 2025 (at CAGR of 20%).
- **Chemicals:** commenced production on the first of two new 650,000 tons-per-year high-performance polyethylene lines at its plastics plant in Mont Belvieu, Texas.
- **Methane emissions:** announced an enhanced program to reduce methane emissions from its production and midstream facilities across the United States; prioritizes actions at sites operated by XTO and includes developing new technologies.
- **R&D:** expanding its research facility in Clinton, N.J., home to XOM's fundamental and process research and development, including advancing algae biofuel and carbon capture technologies, is expected to be completed in 2019.

Key Messages and Outlook

- **Permian value chain:** Recent logistics investments support ongoing manufacturing investments to increase feed processing flexibility and capacity for higher-value products in XOM's Downstream and Chemical businesses. "Our leading presence in the Permian, from equity production through to Gulf Coast refining and chemical capacity, positions us for world-class development across the value chain".
- **Capex:** Maintained $22 bln guidance for 2017, with Mozambique deal to close before year-end. Capex expected to ramp up to end of decade, with guidance at around $25 bln.

Market Reaction

- ***Citi:*** *"The impact of Hurricane Harvey had negligible impact on financial performance, with the contributions from the macro environment and new, high margin growth more than offsetting. Outside of earnings, portfolio renewal remains a key theme with substantial acquisitions in 2017, including today's successful bid in Brazil Carcara North, consistent with our view XOM needs to reposition the portfolio in new."*
- ***BMO capital Markets:*** *"Outside of the Permian and Guyana, Brazil pre-salt will now also be in focus by Exxon, building on recent deepwater exploration success. Nearterm catalysts include the Ranger exploration well in Guyana. However, we note that the Baytown steam cracker is now expected to start up later in mid-2018 due to Harvey impacts.*

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Q3/17 Results Highlights

- **Clean earnings** were $1.9 billion, up 100% y-o-y, mainly due to higher oil & gas prices, higher production including the ADCO concession, and stronger downstream growth & refining margins partly offset by absence of a one-off tax benefit in the UK in 2016.
- **Downstream underlying pre-tax RC earnings** were $2.3 billion, up 63% y-o-y. Fuels reported underlying pre-tax profit was $1.8 billion, up 82% y-o-y, due to higher refining and fuels marketing results. Total refinery throughput was 1.7 Mbbl/d, up 6% y-o-y, and refineries' Solomon availability was 95.3%. Lubricants underlying pre-tax RC profit was $0.4 billion, down 4% y-o-y due to higher base-oil prices which was offset by premium brand growth. Petrochemicals reported underlying pre-tax RC profit of $0.2 billion, up 148% y-o-y, due to improved margins, better optimization and lower costs.

Metric	Unit	Q3/16	Q4/16	Q1/17	Q2/17	Q3/17
Reported Earnings	*m USD*	1,661	72	1,412	553	1,379
Clean Earnings	m USD	933	400	1,510	684	1,865
Cash flow from Operations	*billion USD 4Q rolling sum*	14.1	10.7	10.9	11.9	15.5
Capital Investments[1]	*billion USD 4Q rolling sum*	17.9	19.4	19.5	19.8	20.6
Divestments	*billion USD 4Q rolling sum*	2.4	2.6	1.7	1.8	1.4
Upstream Production	*kboe/d incl. Rosneft*	3,146	3,337	3,529	3,558	3,583
Upstream Unit Clean Earnings	*USD/boe 4Q rolling avg*	(1.2)	(0.4)	1.2	1.6	2.8
OP Clean Unit Earnings	*USD/boe 4Q rolling avg*	1.8	1.7	1.6	1.6	1.8

1-BP has changed its capital investment reporting from accrual to cash basis from Q1/17. Current rolling 4Q numbers are reflective of accrual investment except Q1, Q2, Q3/17. From next quarter, onwards we will provide capital investment at cash basis as reported

- **Upstream underlying pre-tax RC profit**, excluding Rosneft, was $1.6 billion vs a $0.2 billion loss in Q3/16, due to higher oil & gas prices, higher production including the ADCO impact, projects start-ups and lower exploration write-

offs. It was partly offset by higher depreciation, depletion and amortization. Underlying pre-tax income from Rosneft was estimated at $0.1 billion flat y-o-y, due to higher oil prices offset by adverse forex effect.

- **Upstream production** was 2.5 Mboe/d on average (excluding Rosneft), up by 16% y-o-y, mainly due to projects ramp-ups. BP's share of Rosneft production was 1.1 Mboe/d, up 9% y-o-y, due to acquisitions & new fields coming online.
- **Other businesses** (including renewables) and corporate underlying RC loss was $0.4 billion, due to weak business results and forex effects.
- **Financial framework**: The adjusted effective tax rate was 40% vs 37% in Q3/16, the increase being mainly due to the ADCO renewal. The total capital expenditure (cash basis) was $4.4 billion, up 25% y-o-y. CFFO was $6.6 billion excluding Macondo payments. YTD proceeds from asset sales are $1.0 billion. The net debt remained flat at $39.8 billion and gearing end Q3/17 was 28.4%, compared to 25.9% end Q3/16. Dividend is unchanged at 10 cents per share and the undiscounted scrip dividend option is being maintained (typical scrip election 20%).

Q3/17 Milestones and Strategic Progress

- **Cash generation:** YTD CFFO excluding Macondo payments exceeded the organic capex and cash dividend payments by $1.5 billion, leading to a cash breakeven Brent price of $42/bbl (or $49/bbl with full dividend).
- **Gulf of Mexico oil spill:** Cash payments related to the Macondo accident were $0.6 billion in Q3/17 and expected to be $5.5 billion for the full year 2017 and less than $2 billion in 2018.
- **Downstream:** Completed the IPO on subsidiary BP Midstream Partners LP, and received $0.7 billion proceeds. Extended the convenience partnership to 170 additional retail sites and renewed their lubricants partnership with Volvo Car Group.
- **Upstream projects:** Started production in Persephone (50 kboed, Australia), Juniper (95 kboed, T&T) and the giant Khazzan tight gas field (1 Bcfd, Oman). Zohr is expected onto start-up before year end. Extended the ACG PSA until 2049, allowing access to 200 million bbl of additional reserves at $5-6/bbl. Aker BP (BP & Det Norske JV) agreed to purchase Hess in Norway to fuel its growth.
- **Exploration:** Obtained the 2 coveted exploration blocks with Petrobras and CNPC in the DW Santos basin (Brazil).
- **Divestments:** The $4.5 billion target for 2017 is likely to be reached, with proceeds of the Secco sale and of the midstream (pipeline) IPO expected in Q4/17 plus other divestments to be announced in the coming weeks.
- **Rosneft** completed the acquisition of a 30% interest in the Zohr field and the acquisition of 49% stake in Essar.

Key Messages and Outlook

- Uncertain outlook on oil prices, though Opec/non Opec accord should help crude inventories to go further down & in downstream normal refining margins decline is expected in Q4/17 together with a higher turnaround activity.
- Maintain financial discipline of $16 billion organic capital expenditure in 2017 and $15-$17 billion annual capex over 2018-2021, and $2-3 billion annual divestments from 2018. Ambition is oil price breakeven at $35-40 $/bbl by 2021.
- In Upstream, 4 projects start-ups are expected in 2018. Maintains its value over volume approach.
- Will restart its shares buyback program from Q4/17, with the objective to compensate for the scrip dividends.

Market Reaction

- ***Cit:*** *"BP has announced a buyback programme to help offset scrip dilution, a welcome relief for shareholders. The catalyst for this change in policy looks to be improving FCF, driven by growth and lower Macondo costs, although excluding assets sales we think the business still needs $60+ oil in 2018 to generate enough FCF to fully offset the scrip."*
- ***Morgan Stanley:*** *"3Q Net income of $1.87bn was substantially ahead of consensus of $1.58bn, driven by both Upstream and Downstream. Cash generation was strong although aided by a release of working capital. Management now sees cash neutrality at $49/bbl and intends to start a buy-back program."*

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Q3/17 Results Highlights

- **Clean earnings** were $2.7 billion, up 29% y-o-y mainly due to a stronger contribution from Upstream.
- **E&P earnings** were $1.4 billion, up 84% y-o-y, due to the production increase, higher prices and lower operating costs.
- **Oil & Gas production** was 2.6 mboe/d, up 6% y-o-y mainly due to projects ramp-ups partly and taking over the Al-Shaheen concession and additional shares in the Barnett in 2016. Production was offset by natural fields decline, PSC effects and OPEC quotas application.
- **Gas, Renewables & Power earnings** were $97 million. YTD earnings were $253 million, down 18% y-o-y due to a weaker solar market.
- **Refining & Chemicals earnings** were $1.0 billion, up 11% y-o-y, despite the sale of Atotech. Refinery throughput was 1.9 mb/d, down 4% y-o-y due to shutting down Port-Arthur during hurricane Harvey and ending oil refining at La Mede (France).

Metric	Unit	Q3/16	Q4/16	Q1/17	Q2/17	Q3/17
Reported Net Income	*m USD*	1,954	548	2,849	2,037	2,724
Clean Earnings	*m USD*	2,070	2,407	2,558	2,474	2,674
Cash flow from Operations	*bn USD 4Q rolling sum*	14.3	16.5	19.3	21.1	20.7
Capital Investment	*bn USD 4Q rolling sum*	20.7	19.6	18.3	18.1	16.5
Divestment	*bn USD 4Q rolling sum*	3.5	1.9	3.7	3.4	3.5
Upstream Production	*kboe/d*	2,443	2.462	2,569	2,500	2,581
Upstream Clean Unit Earnings	*USD/boe 4Q rolling avg*	4.0	4.1	5.1	5.5	6.04
OP Clean Unit Earnings	*USD/boe 4Q rolling avg*	2.1	2.3	2.3	2.4	2.6

- **Marketing & Services earnings** were $0.5 billion, up 14% y-o-y, due to strong marketing margins (ERMI indicator at $48/t in Q3/17), notably in Africa. Sales volumes were 1.8 mb/d, stable y-o-y, as the sales increase in Africa and Asia were offset by divestments in Europe.
- **Financial framework:** Q3/17 organic capital expenditure and acquisitions amounted to $3 billion, down 25% y-o-y. CFFO was $4.4 billion, down 8% y-o-y, and the Free Cash Flow was $1.0 billion ($5.7 billion YTD, including $2.7 billion divestments proceeds). The net debt at end of Q3/17 decreased to $20 billion, and the debt to equity ratio decreased to 18% mainly due to the free cash flow generated, compared to 20% end Q2/17. Total proposed interim dividends for Q3/17 will be €0.62/share, unchanged versus Q2/17, and 5% discount on scrip dividends is maintained.

Q3/17 Milestones and Strategic Progress

- **Capex:** Organic capital expenses in 2017 are expected to be $14 billion in line with the guidance, plus $2 billion for inorganic acquisitions that will be paid for the Petrobras deal by Q4/17.
- **Opex** in upstream were on average $5.1/bbl in Q3/17, which confirms downward trend towards $5.0/bbl by 2018.
- **Upstream projects:** Started-up the Edradour-Glenlivet gas project in North Sea and took over operatorship of the Al- Shaheen field in Qatar. Paid the bonus following certification of resources for Elk Antelope in PNG.
- **Exploration:** Signed an agreement with Chevron for joint exploration in the GoM.
- **Gas & LNG:** Confirmed discussions with Engie for acquiring its upstream LNG portfolio and studying a 4th train in Yamal LNG for 1 Mt additional capacity with a new low-cost technology.
- **Downstream:** Entered the retail sector in Mexico with 250 stations rebranded as Total. Total refineries are now all equipped for facing the IMO marine bunkers' specifications changes in 2020.
- **Renewables:** Acquired 23% interest in EREN, producing renewable power in developing countries, and launched the Total Spring gas and green electricity offer to final customers in France.
- **Divestments**: Sold its 15% remaining interest in the Gina Krog field in Norway to Kufpec and LPG distribution activities in Germany. Together with the sale of Atotec and SPMR in D/S, it amounts to $3 billion disposals in 2017. It will continue divesting $1 billion worth of high breakeven non-strategic assets per year.
- **Partnerships & Acquisitions**: Announced the acquisition of Maersk Oil for $7.5 billion in Total shares and debt transfer that should be completed by the first quarter 2018. Signed the South Pars phase 11 development contract with NIOC.

Key Messages and Outlook

- **Market environment**: Expect the oil market to remain volatile and unpredictable, hence still focusing on lowering cost and improving operational excellence.
- **Production**: The Upstream production should increase by 5% in 2017, with the Al-Shaheen production start-up in July and other projects ramp-ups like Kahshagan and Moho Nord (Congo), and the expected start-up of Yamal project, and again 5% per year until 2022.
- **Opex**: the effort of cost continues and should deliver $3.6 billion reductions by end 2017 vs 2014, and $5 billion by 2020. Total's pre-dividend breakeven will be below $30/bbl by end 2017 and should continue to fall to $20/bbl by 2019.

Market Reactions:

- ***Morgan Stanley:*** *"Total's 3Q17 net income of $2.7bn was in-line with consensus. However, 3Q17 FCF was ~$2.1bn, which was 20% higher than the dividend and the highest since 1Q11. Gearing continued to fall reaching the lowest level since 3Q11."*
- ***UBS:*** *" Total remains on track with its cost efficiency and production growth targets. The Maersk Oil acquisition, progress towards Libra FID, commencement of the Al Shaheen operatorship, in addition to ramp ups in several fields, de-risk the target of 5% CAGR to 2022. Downstream operating cash flows (pre-WC) are on track to reach $7bn for the full year."*

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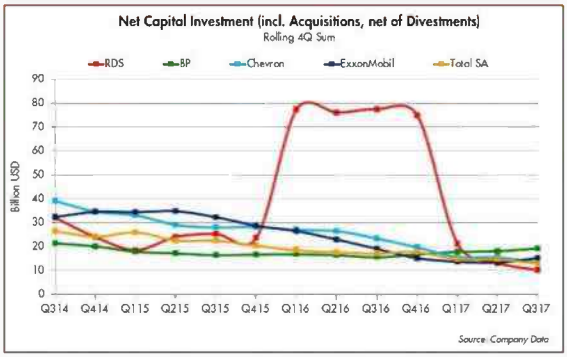
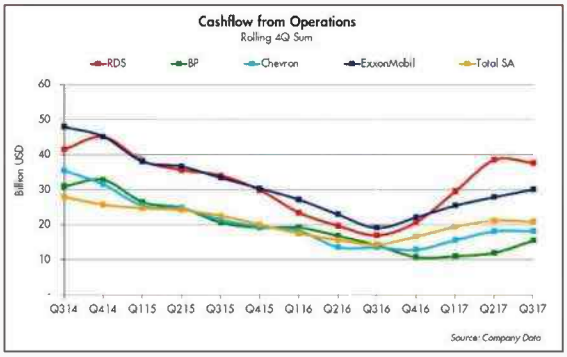
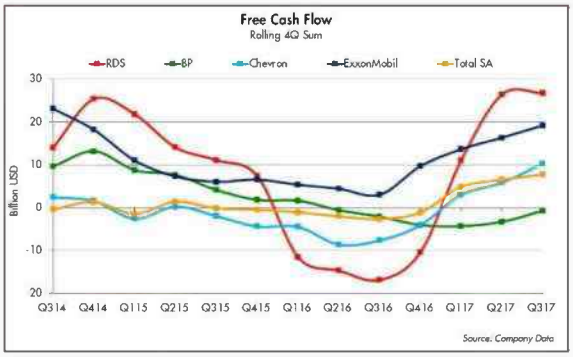
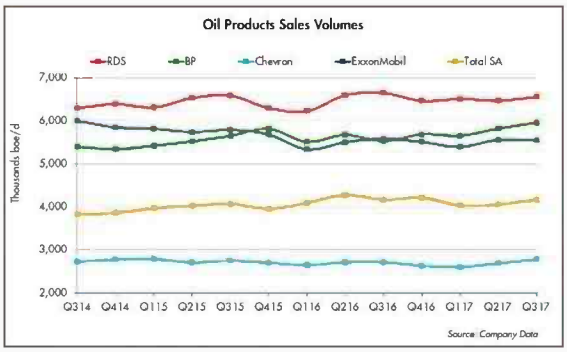
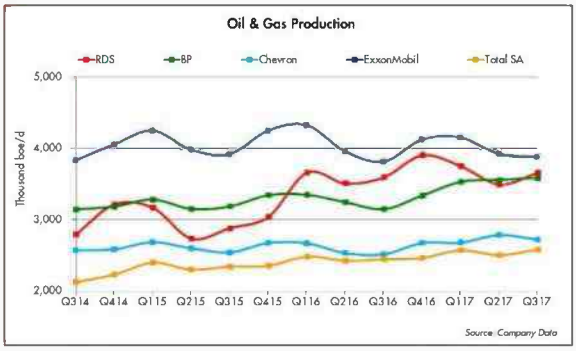
IOC Financial Charts

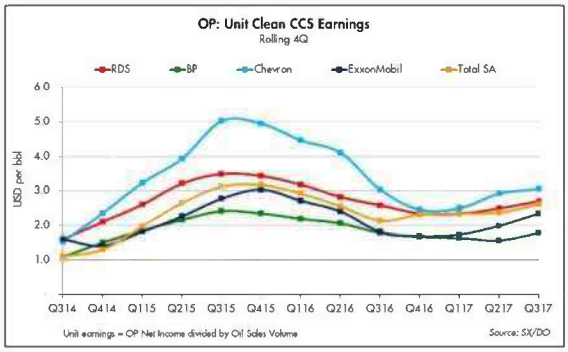


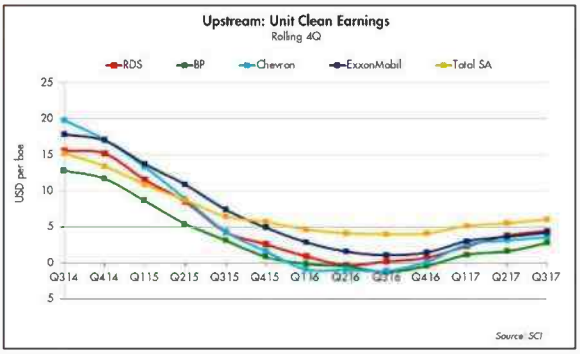












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