



US\$1.85trn Market cap
1.79% Free float
US\$443mn Avg. daily volume

Fair price 37.50 +8.4% over current
Current price 34.60 as at 16/1/2020

Existing rating

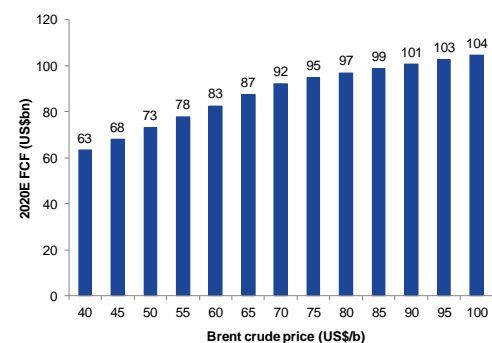
Underweight Neutral Overweight

Key financial summary

	2018	2019E	2020E
Crude oil + condensate deliveries (mmbpd)	10.5	10.0	10.3
Total production (mboe/d)	13.6	13.0	13.9
Brent price (US\$/bbl)	71.9	64.1	61.3
Revenue* (SARbn)	1,335	1,216	1,276
EBITDA (SARbn)	840	741	834
Net profit (SARbn)	416	361	401
Operating cash flow (SARbn)	454	420	454
Capex (SARbn)	132	134	140
FCF (SARbn)	322	286	314
Gearing ratio	-9%	-1%	16%
ROACE	41%	30%	29%
EPS (SAR)	2.1	1.8	2.0
DPS (SAR)	1.1	1.4	1.5
Payout (%)	52%	78%	75%
Dividend yield (%)	3%	4%	4%

Source: Company data, Al Rajhi Capital. * including other income related to sales. SABIC included in H2 2020

FCF under various scenarios **



Source: Al Rajhi Capital. SABIC included from H2 2020.

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Saudi Aramco Dividend haven. Initiate at US\$2trn

With a dividend prioritization of pro-rata US\$75bn for 2020-24 to non-government shareholders, Aramco stock gives the cushion of a bond for the downside and capital appreciation on the upside. We forecast US\$80bn dividend for 2020 and, based on our analysis, implied dividend yields could range from 3.6% (based on local market examples) to 4.6% (based on IOC US peers), arrived by using spreads between dividend and bond yields. This difference could be mainly explained by the variance in dividend withholding tax in Saudi and the US, and given that it is a local market listing, the former could be likely preferred. In the longer term, Aramco gives more stability in production growth with proven reserves 10.6x closest peers (source: IHS Markit) and stable cash costs (1/10th its peer avg.; source: IHS Markit). While financials are sublime, Aramco's royalty structure implies lower growth beyond US\$70/barrel relative to peers. However, given that such stocks are held more from a dividend perspective, yields may be the preferred basis for valuation. While we show the range of valuations in our subsequent sections, we value the company based on implied dividend yield of ~4% on 2020 dividends, and is in-line with our FCF valuations. We arrive at a fair price of SAR37.5/share (US\$2trn) and initiate coverage with Neutral rating given a 8.4% upside.

Robust metrics: Aramco is the largest oil producer in the world with a market share of ~10% based on 9.75mboe/d of oil production (as of Dec 2019; source: EIA), supplying to strategic markets globally. Its crude exports are well diversified with top five external customers constituting ~20% of production. Low sustainable upstream lifting costs (US\$2.8/boe in 2018) and ~3% production growth (medium term as per our estimates) imply sustainability of strong free cash flows (US\$86bn in 2018) and high RoACE (41.1% in 2018; see appendix for calculations). Based on our estimates, a \$1 increase in oil price is likely to improve cash flow by US\$1.5bn. The strategic expansion in its integrated refining and chemicals downstream business in growth markets enables the company to increase captive upstream sales. The scale of reserves (257bnboe) leads to a low annual depletion rate of 1.5%. Near-term expansion is likely to be mainly driven by commercialization of Jazan and PRefChem complexes.

Sustainability of dividends: We forecast dividends of US\$80bn for 2020 based on expected 10.3mmbpd crude and condensate deliveries, US\$61.3/b Brent, 4mmbpd net refining capacity, and 22.7mmtpa net chemical capacity (excluding SABIC). Based on this, the earnings payout is 74.8% as per our calculations, lower than the average for peers. Sustaining capex at 3.7% of sales is low as compared to peers and is noteworthy in the event of "peak oil" concerns. Besides this, low gearing gives further ability to increase dividends unlike peers who have borrowed to pay dividends in the past.

Cost of risk: We believe the cost of risk is overestimated with regard to geopolitical and other industry risks:

- Starting with the macro, the Saudi currency is pegged to the US dollar and hence does not have currency risks as with other emerging economies. We regard Aramco's corporate governance standards as excellent and its comparison with national oil companies is not justified as there is no interference from the government.



- The cost of equity of all the large Saudi listed firms is around only 11-12% (e.g. SABIC, Al Rajhi Bank, etc.), where foreign funds own around 10% of the market, vetting such cost of equity.
- With regard to the risk of peak oil, with the lowest cost of oil production and abundant reserves, in case of a massive correction in global oil demand, the company is likely to still maintaining or increasing production, in our view.

Lastly, the ability of the company to recover was on display as exhibited during its recovery post Abqaiq attacks. Even during global crises in the past, the impact on oil supply has only been 1.5mmbpd on an average (Figure 17).

Valuation summary: To us, valuations have been primarily about estimating the right premium as we do not see the sustainability of performance or risk factors as a material concern. Though we show various valuation methods in depth, we use the dividend valuation method for our fair price.

Dividend yield method based on:

- **US IOC (International Oil Companies):** Although of late dividend yield and bond yield have widened for peers such as Exxon, historically they have remained broadly tight for majority of the last 12 months. Based on the average of 2019 spread of dividend yields over bond yields for Chevron and Exxon, one could arrive at an average of 4.6% dividend yield for Aramco (Figure 1).
- **Peers in Saudi:** SABIC and SEC (local peers) are trading at dividend yields with much tighter spreads over their respective bond yields. Based on this, one could arrive at an average of 3.6% dividend yield for Aramco.

The difference in the above numbers is explained by the variation in withholding tax between the countries. A foreign investor in Saudi Arabia needs to pay 5% withholding tax as compared to 30% in the US. Thereby, there could be a lower gross required dividend yield as compared to US peers such as Exxon assuming no income taxes.

Moreover, considering that we are likely at the bottom of the oil cycle and hence with possibility of capital gains, there is enough comfort for stock holders to price dividend yield at even below the 10-year bond, especially when Fed is expected to lower interest rates. Theoretically, as oil price declines, dividend yield could go lower while the growth component of the equation (cost of equity = growth + dividend yield) can increase to maintain a constant cost of equity.

In a nutshell we believe such companies are to be valued unconventionally given the almost guaranteed safety of dividends. Thus based on this we arrive at a fair price of SAR37.5/share based on the average, at around 4%, applied on USD80bn dividends for 2020.

Figure 1 Summary of dividend yield methods

			Dividends (US\$bn)		
			75	80	85
			Implied value for Aramco (US\$trn)		
IOC	Exxon	4.9%	1.5	1.6	1.7
	Chevron	4.2%	1.8	1.9	2.0
Local market	SABIC	3.6%	2.1	2.2	2.4
	SEC	3.7%	2.0	2.2	2.3

Source: Bloomberg, Al Rajhi Capital. * Implied dividend yield is calculated based on the average 2019 spread over 10Y bond.

The DCF method: Using our estimates - WACC at 7.4%, cost of equity at 8.1%, and terminal growth rate at 2%, average Brent price of ~US\$61.0-62.0 (from 2020 to 2021), we arrive at a valuation of around US\$1.9trn. Based on average oil selling prices ranging from US\$60.0/bbl to US\$75.0/bbl, we arrive at a valuation of US\$1.8–2.1trn. For various scenarios, please refer to page 15.



Upside and downside factors: Factors that could move our valuation upwards are: higher than expected oil and gas prices, higher market share gains as weaker competitors exit, improved macro-economic growth, further captive expansion opportunities, successful value accretive acquisitions and higher than expected decline in local energy consumption leading to higher export volumes. Factors that could move our valuation downwards are: lower than expected oil and gas prices, weak macro growth, higher than expected increase in capex for expansions, climate change concerns, geo-political tensions, delay in commercialization of new/expansion projects, impairment of assets and change in policies on royalty and tax detrimental to minority shareholders.



Key assumptions

Figure 2 Key assumptions

	2018	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Crude and condensate deliveries								
Local (mmbpd)	3.2	3.1	3.2	3.5	3.6	3.7	3.7	3.7
International (mmbpd)	7.3	6.9	7.1	7.3	7.4	7.5	7.6	7.8
Total crude and condensate deliveries (mmbpd)	10.5	10.0	10.3	10.7	10.9	11.2	11.3	11.4
NGL production (mmboe/d)								
NGL production (mmboe/d)	1.1	1.1	1.1	1.1	1.1	1.2	1.5	1.6
Gas production (mmboe/d)								
Gas production (mmboe/d)	1.6	1.6	2.2	2.2	2.4	3.0	3.0	3.0
Total production (mmboe/d)*	13.6	13.0	13.9	14.3	14.8	15.6	16.1	16.2
Average crude selling price (US\$/bbl)								
Average crude selling price (US\$/bbl)	70.0	62.6	59.8	60.4	63.5	63.5	63.5	63.5
Brent crude oil price (US\$/bbl)								
Brent crude oil price (US\$/bbl)	71.9	64.1	61.3	61.9	65.0	65.0	65.0	65.0
Lifting costs assumed (US\$/boe)								
Lifting costs assumed (US\$/boe)	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Gross refining capacity (mmbpd)								
Gross refining capacity (mmbpd)	4.9	5.4	6.8	6.8	6.8	6.8	6.8	6.8
Net refining capacity (mmbpd)								
Net refining capacity (mmbpd)	3.1	3.3	4.0	4.0	4.0	4.0	4.0	4.0
Gross chemical capacity (Ex-SABIC) (mmtpa)								
Gross chemical capacity (Ex-SABIC) (mmtpa)	33.2	33.2	40.2	40.2	40.2	40.2	40.2	40.2
Net chemical capacity (Ex- SABIC) (mmtpa)								
Net chemical capacity (Ex- SABIC) (mmtpa)	16.8	16.8	22.7	22.7	22.7	22.7	22.7	22.7
Exports revenue								
LPG	11.5	9.4	9.2	9.3	10.1	10.4	14.0	14.4
Crude and condensate	189.9	157.2	152.1	157.0	167.9	170.7	173.5	176.4
Refined products	88.6	93.4	89.7	81.2	85.3	85.4	85.5	85.7
Local revenue								
Refined products	14.8	15.5	18.5	21.5	22.6	22.6	22.6	22.6
Sweet gas	4.0	3.8	5.3	5.3	5.9	7.2	7.2	7.2
Crude and condensate	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Adjustments	5.5	8.4	8.4	8.4	8.4	8.4	8.4	8.4
Upstream + Downstream revenues	315.2	288.5	284.1	283.6	301.0	305.5	312.2	315.6
Other income related to sales	40.7	34.3	37.2	40.3	42.7	43.6	44.6	46.6
Total revenues exc. SABIC	355.9	322.8	321.4	323.9	343.7	349.2	356.8	362.2
Total revenues inc. SABIC*	355.9	324.3	340.4	362.2	382.8	389.2	397.6	403.9

Source: Company data, Al Rajhi Capital. * Includes internal gas usage of 0.3mmboe/d (as per our calculations) throughout the forecasted periods. 2018 is company data post which are Al Rajhi Capital's assumptions. SABIC included in H2 2020.



Snapshot of Saudi Aramco

Figure 3 Revenue split by activity

	FY16	FY17	FY18
Exports			
Crude oil			
Exports volume (mmbbl)	2,826	2,662	2,712
Export realized prices (US\$/bbl)	40.7	52.7	70.0
Exports revenue (US\$bn)	115.1	140.3	189.9
LPG			
Exports volume (mmbbl)	285	285	294
Export realized prices (US\$/bbl)	24.7	33.3	39.2
Exports revenue (US\$bn)	7.0	9.5	11.5
Refined products (S-Oil, Motiva, ATC and SAOC)			
Exports volume (mmbbl)	519	876	1,096
Export realized prices (US\$/bbl)	51.3	65.0	80.8
Exports revenue (US\$bn)	26.6	57.0	88.6
Total export revenues (US\$bn)	148.7	206.8	290.0
Local			
Crude oil			
Local deliveries (mmbbl)	184	167	152
Local realized prices (US\$/bbl)	6.2	6.2	6.2
Local revenue (US\$bn)	1.1	1.0	0.9
Sweet gas			
Local deliveries (mmbbl)	566	592	598
Local realized prices (US\$/boe)	6.4	6.8	6.7
Local revenue (US\$bn)	3.6	4.0	4.0
Refined products			
Local deliveries (mmbbl)	659	624	570
Local realized prices (US\$/bbl)	17.9	18.7	25.9
Local revenue (US\$bn)	11.8	11.6	14.8
Total local revenues (US\$bn)	16.5	16.6	19.7
Total export and local revenues (US\$bn)	165.2	223.4	309.7
Adjustments (US\$bn)	(30.6)	(0.5)	5.5
Total upstream and downstream revenues (US\$bn)	134.6	222.9	315.2

Source: Company Data, Al Rajhi Capital. * Adjustments



Figure 4 Peers comparison[^]

	Aramco	Inpex	ONGC	Sinopec	PetroChina	Equinor**	Repsol Spain	CNOOC China	ENI Spain	Petrobras	Suncor Energy	BP UK	Exxon	Chevron	Shell	Total SA	Rosneft	Average	Median
Market and ownership data																			
Country	KSA	Japan	India	China	China	Norway	Spain	China	Italy	Brazil	Canada	Britain	US	US	Netherlands	France	Russia	-	-
Mcap (US\$bn)*	1,844	15	22	86	148	68	25	77	56	95	53	133	292	220	235	141	82	-	-
EV (US\$bn)*	26	38	136	244	80	38	72	76	172	65	190	347	246	312	176	139	-	-	
Govt. ownership	98.2%	25.4%	88.7%	0.1%	98.3%	76.5%	0.1%	81.0%	55.7%	35.6%	0.7%	0.1%	1.0%	0.8%	0.1%	0.1%	55.3%	-	-
Reserve and production metrics																			
Proved reserves (MMBOE)	256,890	3,820	4,648	2,499	20,385	6,175	2,339	4,569	7,153	9,598	4,687	19,945	24,293	12,053	11,373	12,050	44,358	-	-
Crude oil %	77.2%	74.5%	56.8%	54.7%	0.4%	47.8%	27.3%	72.2%	49.5%	86.1%	100.0%	57.4%	64.5%	56.3%	47.8%	43.2%	73.7%	57.0%	56.6%
Reserve life	52	25	10	6	14	8	9	10	11	10	18	15	17	11	9	12	21	13	11
Reserve Replacement Ratio	154.0%	210.7%	177.6%	109.9%	NA	213.3%	93.9%	125.0%	175.5%	105.0%	64.2%	209.4%	313.0%	136.3%	53.9%	156.8%	130.4%	151.7%	136.3%
Production (MBOE/Day)	13,567	424	1,298	1,237	4,087	2,111	715	1,301	1,851	2,628	732	3,683	3,833	2,930	3,666	2,775	5,795	-	-
Revenue and cost metrics																			
E&P Oil revenue (US\$/BOE)	42	57	136	49	50	45	35	59	44	55	54	42	46	48	47	41	35	53	47
F&D costs (US\$/BOE)	-	NA	NA	NA	NA	12	10	13	9	16	29	10	14	12	16	14	6	13	13
EBITDA margin (%)	62.9%	60.5%	16.5%	6.8%	15.8%	37.0%	9.2%	57.3%	22.4%	30.5%	32.2%	10.1%	14.2%	21.0%	13.7%	16.8%	22.5%	24.2%	18.9%
Net margin (%)	31.2%	9.9%	6.8%	2.2%	2.5%	9.6%	4.7%	23.2%	5.4%	7.4%	8.5%	3.1%	7.5%	9.3%	6.0%	6.2%	6.7%	7.4%	6.7%
Capex																			
Average capex to sales ratio**	10.9%	36.0%	8.4%	3.5%	12.1%	19.6%	5.5%	27.7%	13.5%	15.1%	19.7%	7.2%	7.2%	12.2%	7.4%	10.9%	13.8%	13.7%	12.2%
Dev. capex as a % of total capex**		NA	NA	35.5%	NA	73.1%	71.1%	88.8%	80.0%	85.5%	77.7%	87.3%	66.6%	101.4%	132.0%	68.7%	94.7%	81.7%	80.0%
Valuation metrics																			
Total debt to assets	7.5%	23.8%	20.6%	9.3%	17.3%	22.9%	22.6%	20.6%	21.9%	38.0%	19.4%	23.3%	10.9%	13.6%	19.2%	20.1%	33.1%	21.0%	20.6%
2020E ROE	34.6%	5.1%	13.0%	8.3%	4.5%	13.3%	9.3%	12.9%	8.0%	10.9%	9.9%	10.4%	7.6%	8.6%	10.4%	10.8%	17.7%	10.0%	10.1%
2020E P/E	17.3x	10.7x	5.0x	8.2x	11.5x	11.7x	7.6x	8.8x	11.8x	10.4x	14.0x	12.1x	19.8x	16.8x	11.2x	10.5x	6.0x	11.0x	11.0x
2020E EV/EBITDA	8.3x	4.0x	3.5x	4.6x	4.7x	3.0x	4.2x	3.4x	3.8x	5.1x	6.2x	4.9x	7.9x	6.0x	5.2x	4.3x	4.3x	4.7x	4.5x
EV to TTM FCF	29.4x	23.2x	NA	107.0x	53.7x	14.0x	20.7x	NA	15.6x	10.1x	13.6x	25.2x	37.4x	13.4x	10.8x	10.7x	NA	27.3x	15.6x
EV/Production (US\$/BOE)	371	168	80	301	164	103	145	152	113	179	242	141	248	230	233	173	66	171	166
EV/Proved reserves (US\$/BOE)	7	7	8	54	12	13	16	16	11	18	14	10	14	20	27	15	NM	17	14
2020E Dividend Yield	4.3%	2.4%	6.2%	7.5%	4.3%	5.1%	6.9%	5.2%	6.2%	3.6%	3.8%	6.3%	5.0%	4.1%	6.3%	5.4%	6.7%	5.3%	5.3%
Average payout ratio(%)**	58.6%	56.3%	41.9%	110.1%	51.7%	65.7%	90.1%	102.5%	88.7%	0.0%	50.8%	234.0%	67.9%	90.2%	119.0%	84.9%	57.5%	81.9%	76.4%

Source: Company Data, Bloomberg, Al Rajhi Capital. *Mcap and EV data as of January 15, 2019. **Considered average of last three years for other companies while used last two years average for Aramco. ^ Data for reserves and production metrics, revenue, and cost metrics are based on 2018 data.



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Valuation in depth

Dividend Yield Method

This method could be important for oil-based investors given that dividend (average payout for oil peers at 104% in the last 4 years on average – Figure 98 in Appendix) is likely the one of the key criteria for investing in this sector.

Compared to IOCs

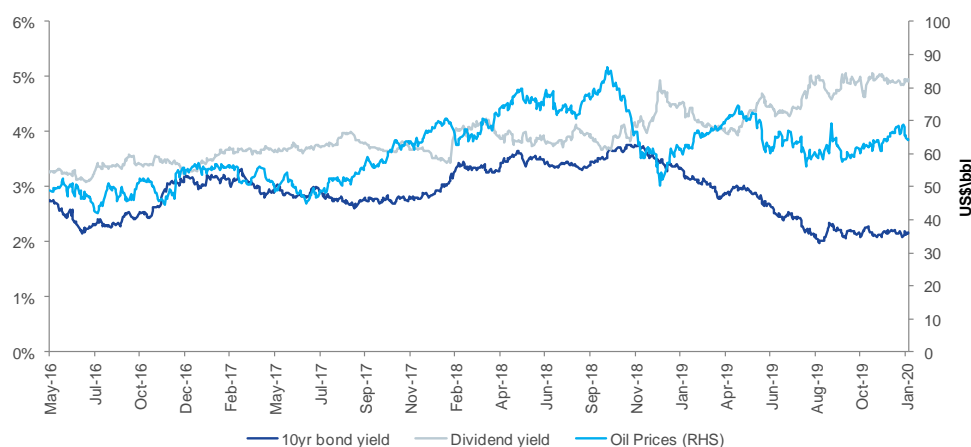
Aramco's 10Y bond is trading at 3% (as of January 15th, 2020), 80bps higher than Exxon's 2.2% for its 10Y bond. This implies higher risk perceived by the market as reflected in ratings of credit agencies. Aramco is rated A1 by Moody's while Exxon is rated higher at Aaa. Aramco is rated A by Fitch but Aramco's Standalone Credit Profile (SCP) is at 'AA+' (Oct 19).

Figure 5 Credit ratings

	Name	Moody's	SP	Fitch
Big oil	Aramco	A1	NA	A
	Exxon	Aaa	AA+	WD
	BP	A1	A-	A
	Chevron Corp	Aa2	AA	WD
	Total SA	Aa3	A+	AA-
	Royal Dutch Shell	Aa2	AA-	AA-
Others	Rosneft Oil	Baa3	BBB-	WD
	Inpex Corp	A2	A-	NA
	Oil & Natural Gas Corp Ltd	Baa1	BBB-	NA
	China Petroleum & Chemical	A1	A+	A+
	Petrochina Co	NA	NA	A+
	Equinor	Aa2	AA-	NA
	Repsol SA	Baa1	BBB	BBB
	CNOOC Ltd	A1	A+	A+
	Eni Spa	Baa1	A-	A-
	Petrobras	Ba2	BB-	BB-
	Suncor Energy	Baa1	A-	NA
Saudi companies	SABIC	A1	A-	A
	Saudi Electricity	A2	A-	A-

Source: Bloomberg, Al Rajhi Capital. As of January 16, 2020

Figure 6 Exxon 10yr bond yield vs. dividend yield and oil prices



Source: Bloomberg, Al Rajhi Capital. As of January 15, 2020

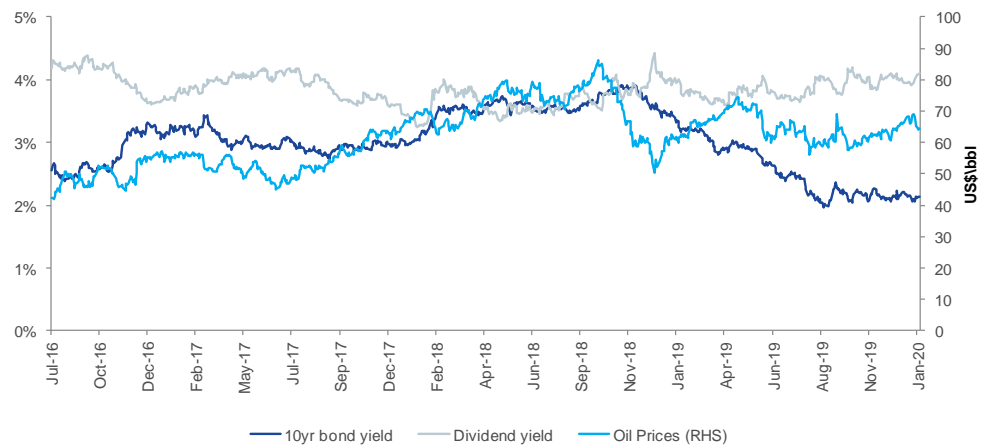


Looking at spreads between 10Y bond yields and dividend yields, we observe that this spread has widened only in recent months (we believe that dividend estimates are not revised downward in line with oil prices and hence will narrow back) while trading in a narrow band previously.

We see the same relationship between bond and dividend yields for Chevron. The average spread in the past till April 2019 was around 0.1–0.5% and the divergence increased to 1.5–2.2% recently.

We add the average spread of 2019 dividend yield over bond yield for both Exxon and Chevron to Aramco’s current 10Y bond yield to arrive at an overall average of 4.6% (range: 4.2% to 4.9%) dividend yield for Aramco.

Figure 7 Chevron 10yr bond yield vs dividend yield and oil prices



Source: Bloomberg, Al Rajhi Capital. As of January 15, 2020

Compared to Saudi peers

We repeat the exercise for the two companies that are listed on the Saudi stock exchange and have a bond traded (SEC and SABIC). We observe that there is a lower spread over bond yields relative to the IOC spread. For example, SABIC’s TTM dividend yield stands at 4.7% and has a 10-year bond yield of 2.9%. As with the IOCs, the spread has diverged in the recent months from even negative spreads in the past. We have repeated the same exercise for SEC. Accordingly, we have arrived at an implied dividend yield of 3.6% for Aramco based on SEC and SABIC.

Figure 8 Bond and dividend yield spread for SABIC and SEC



Source: Bloomberg, Al Rajhi Capital. As of January 15, 2019



Why is the difference?

In our view, the reason for this divergence is the variance in withholding tax for a foreign investor in Saudi as compared to a foreign investor in the US where the dividend withholding tax is around 30%. Adjusting for the 25% (30% – 5% WHT), a large part of the difference between the implied dividend yield diminishes. For local investors, there is no withholding tax for dividends.

For Aramco, we believe the dividend yield could go even lower than that of the 10Y bond yield because of various reasons as follows:

- i. **Capacity of Aramco to increase dividends:** As discussed above, the base guidance for dividends of US\$75bn in 2020 is on only 65.6% dividend pay-out ratio as per our calculations. This implies that Aramco has more potential to increase dividends and hence there should be lesser dividend risk. Furthermore, Aramco has the ability to lower capex, and with a total debt to total assets ratio of 7.5% as of 2018, it also has the capacity to borrow to increase dividends, if required. Companies such as Exxon have been able to maintain or increase its dividends by increasing debt and lowering capex. As for Aramco's capex, the maintenance capex is 3.7% of sales, much lower compared to peers. In fact, reserves of 257bn boe provide the company capability to cut exploration capex in order to maintain or increase dividends as and when the situation demands.
- ii. **Negative spreads in the past:** There have been times when dividend yields of Exxon and Chevron have strayed below the bond yield in the past. This is when oil prices decline because theoretically, the sum of expected dividend yield + growth potential equals cost of equity.

In the below section, we show fundamentally what drives dividend yields.

The IOC companies trade at a dividend yield of around 3.8–6.1% currently with an average dividend yield of 5.3% and a historical median dividend yield of 5.6% YTD. Using the two extremes as the basis for implied target dividend yield can result in a wide variation. Hence, it becomes important to arrive at the best possible estimate. As seen from the following figure, dividend yields range from 3.8% to 6.1% and depend on return metrics RoIC (RoIC= Operating profit (after tax) / (total debt + total equity – cash and short term investments)).

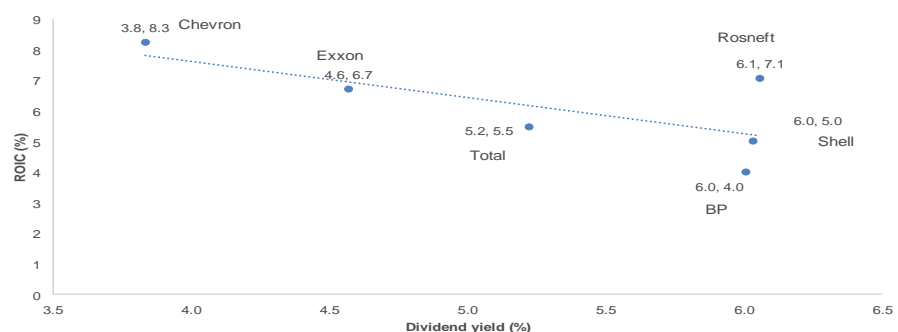
Figure 9 Dividend yield and return metrics

	TTM Div. Yield (%)	RoIC (%)*	Current Yield (%)**
Exxon	4.6	6.7	5.0
Chevron	3.8	8.3	4.1
Total	5.2	5.5	5.4
Shell	6.0	5.0	6.4
BP	6.0	4.0	5.8
Rosneft	6.1	7.1	6.4

Source: Bloomberg, Al Rajhi Capital. * Median for historical 10 yrs on quarterly basis, **As of January 15, 2020

The explanation is that higher RoIC implies higher growth (growth = retention ratio * ROE).

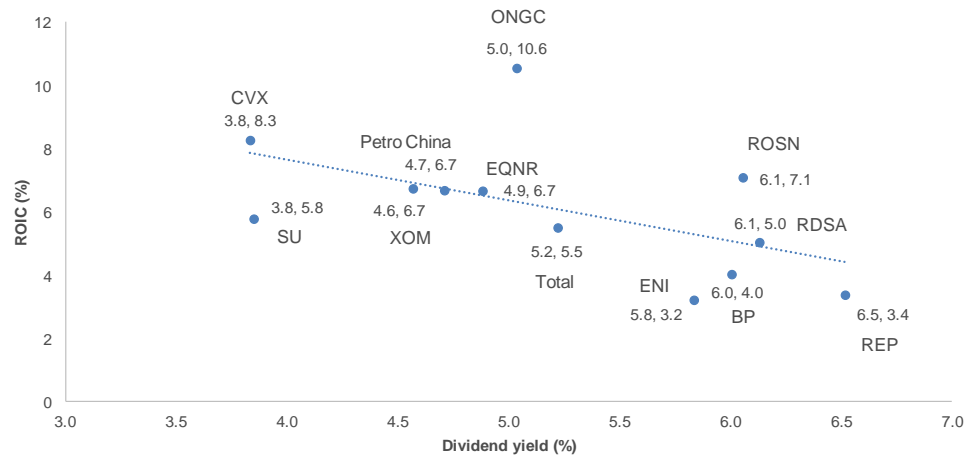
Figure 10 Big Oil producers' RoIC* vs TTM Dividend yield



Source: Bloomberg, Al Rajhi Capital. Included Rosneft as the company is the second largest company in terms of production globally. * RoIC: Median for historical 10 yrs on quarterly basis.



Figure 11 RoIC* vs TTM Dividend yield



Source: Bloomberg, Al Rajhi Capital. * RoIC: Median for historical 10 yrs on quarterly basis

Thus we see that Aramco's high RoIC of around 44% should command it the lowest dividend yield among others. Thus with Chevron the lowest at 3.8% Aramco should trade at a yield much below this.

Note:

- We have considered the median historical RoIC for peers to avoid volatility in numbers. If we are to use the recent RoIC numbers, which is around 5% for say Exxon, then the premium would have been even more for Aramco.
- Please refer Figure 15 for limitation of growth for Aramco as compared to peers such as Exxon due to the royalty structure.

NAV method

Based on our NAV method, we determine the value of the company using its existing reserve base. We assume a marginal increase in current production rates till 2025, and then a stable output over the life of reserves. Furthermore, we assume an average oil price of US\$60.0-64.0/bbl (from 2020-23), upstream lifting costs of US\$2.8/boe, and maintenance capex of around US\$2.0/bbl (based on Al Rajhi capital estimate of 3.7% on sales). Using 48% tax, we derive post-tax free cash flow throughout the reserve life, which implies a US\$1.1trn valuation for its upstream segment. For the downstream segment, we valued the refining and chemical business using the net refining margin of US\$3.0/bbl and US\$100.0/tonne, respectively and arrive at a value of US\$53bn and US\$27bn respectively (using 12x target multiples). We value 70% stake of SABIC at US\$53bn (based on our fair price for SABIC at SAR95/share). Consequently, we arrive at a market value of US\$1.3trn. Based on a range of average selling prices for oil from US\$60.0/bbl to US\$75.0/bbl the combined value for Aramco is likely to be between US\$1.2 and US\$1.4trn.



Figure 12 NAV model – Base case assumptions

Upstream assumptions		Downstream assumptions	
Average oil production till 2025 (mmbpd)	10.84	Refining business	
Average oil production post 2025 (mmbpd)	11.41	Average net refining margin (US\$/bbl)	3.0
Average oil price (US\$/bbl)**	63.4	Aramco's 2020E refining capacity (mmbpd)	4.0
		Implied multiple	12
Reserves (bnboe)	256.9	Implied EV for refining business(US\$bn)	53
Lifting costs (US\$/boe)	2.8		
Royalty from 2020	15%	Chemical business	
Maintenance capex (US\$/boe)*	2.0	2020E chemical net production capacity ('000 tons)	22,700
Tax rate	48%	Average net margin (US\$/t)	100
Discount rate	10.0%	Implied multiple	12
Upstream NPV (US\$bn)	1,087	Implied EV for chemical business(US\$bn)	27
Combined EV for Aramco (US\$bn)	1,221		
Combined equity value for Aramco (US\$bn)	1,255	Fair value of SABIC*** (US\$bn)	53

Source: Company Data, Al Rajhi Capital. * Maintenance capex per boe is calculated based on our expectation of average maintenance capex (roughly 3.7% of sales) and total production throughout the reserve life. ** Average oil price throughout the reserve life. *** Based on our last published target price of SAR 95/share

DCF Valuation Method

For our DCF valuation approach, we use the median Bloomberg consensus estimate for Brent (~US\$61.0-62.0/bbl for 2020-21 and thereafter assume US\$65.0/bbl), and apply historical spreads to calculate the average realized oil price for Aramco. We expect the daily production volume to decline by ~4.6% in 2019, primarily due to the OPEC production cut agreement and the impact of the drone attack on its oil fields last year. Post 2020, we expect the company to increase its daily output at a CAGR of 2.1% over 2020-25E, given the healthy demand and likely steady oil prices. We have also factored in the revised royalty structure, effective from Jan 2020. Moreover, we expect the company to continue to incur capital expenditure of ~US\$45bn on an average over 2020-25E. Accordingly, we arrive at a fair value of US\$1.9trn for the company using 2% terminal growth rate and 7.4% WACC (cost of equity: 8.1%). Based on oil price ranging from US\$60.0-75.0/bbl, we get a range of US\$1.8–2.1trn. Please see page 15 for scenarios.

Figure 13 DCF valuation method

(In US\$bn)	2020E	2021E	2022E	2023E	2024E	2025E
Pre-tax operating profit	207	218	231	234	240	244
Income taxes	98	103	109	111	114	116
Post-tax operating profit	108	115	122	124	126	129
Add: D&A&I	16	20	21	22	23	24
Change in working capital	(6)	(1)	(1)	(0)	(1)	(0)
Less: Capex	(62)	(39)	(41)	(42)	(43)	(43)
Free Cash Flow to Firm*	56	95	101	103	106	110
<i>Discount factor</i>	<i>1.00</i>	<i>0.93</i>	<i>0.87</i>	<i>0.81</i>	<i>0.75</i>	<i>0.70</i>
PV of Free Cash Flows	56	89	87	84	80	77
Sum of present values of FCFs	472					

Terminal value as per DCF

Long term growth rate	2%
Free cash flow (t+1)	112
Terminal value	2,085
Present value of terminal value	1,462

Value of the equity

Appraised value of the enterprise	1,935
Add:	
Value of associates and non-core assets	11
Less:	
Net debt	(32)
Minorities	(3)
Employees' Termination / Service Benefits	(10)
Appraised value of the equity	1,900

Source: Company Data, Al Rajhi Capital. SABIC included in 2H 2020. * Based on our calculations



Other key valuation questions

Why do we not emphasize using EV/Reserves?

For valuation purposes, every company is assumed to be a going concern – that it will continue to operate forever. For example, a telecom stock even with a license period of only 15 years may be valued with a terminal growth after 5/10 years, even though the license is not guaranteed after 15 years. In the same way, one could argue that, for oil companies, more reserves would be acquired or identified so as to maintain the same size of reserves. However, the size and quality of reserves definitely play a role in understanding the premium for the company. It also gives a higher degree of confidence about the stability of long-term revenue and margin forecasts. Based on this method of valuation, we get a market capitalization range of US\$3.6–3.7trn, based on median/average EV/Reserves of 14.0/14.3x of the major IOCs. There could even be a premium to this multiple for Aramco because of its higher profit per barrel compared to peers.

Figure 14 EV/Reserves valuation methodology – Base case

Companies	Market	EV/Reserves	Aramco's valuation	
Inpex	Japan	6.8x	Median industry multiples	14.0x
ONGC	India	8.2x	Aramco's Reserves (Bnbbls)	257
PetroChina	China	12.0x	Aramco's EV (SARbn)	13,523
Equinor*	Norway	12.9x	Debt (SARbn)**	(173)
Repsol Spain	Spain	16.2x	Cash and short-term investment (SARbn)**	218
CNOOC China	China	15.8x	Investment (SARbn)**	42
ENI Spain	Italy	10.7x	Minority (SARbn)**	(11)
Petrobras	Brazil	17.9x	Pension liabilities (SARbn)**	(38)
Suncor Energy	Canada	13.8x	Equity value (SARbn)	13,561
BP UK	Britain	9.5x	Equity value (US\$bn)	3,616
ExxonMobil	United States	14.3x		
Chevron	United States	20.4x		
Shell	Netherlands	27.4x		
Total	France	14.6x		
Average		14.3x		
Median		14.0x		

Source: Company data, Bloomberg, Al Rajhi Capital. * Earlier Statoil. ** As of 9M 2019

Why not compare to 30Y bond yield for relative valuation?

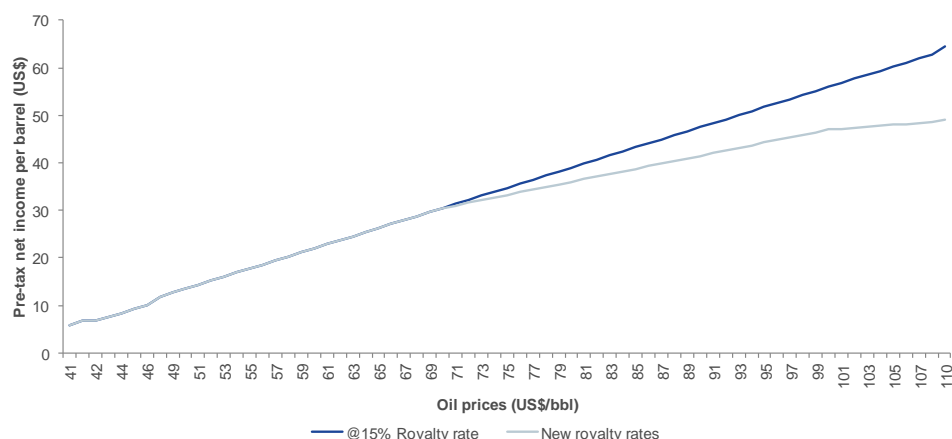
We believe that it is an industry practice to compare primarily with 10-year bonds (or 5-year bonds) given the usual time frame for DCF models, and hence the comparison with 30Y may not be correct. This is the reason why comparison with lower bond maturity (1/2Y, etc.) is also not ideal. Moreover, 30Y incurs significant risks of peak oil prices amid other assumptions that are difficult to capture.

Why EV/EBITDA is not an ideal method to use for valuing the company?

Technically, EV/EBITDA depends on ROIC (as growth depends on ROIC). However because of the unique royalty structure for Aramco, for oil prices >US\$70/bbl, there would be lower EPS growth than the increase in oil prices (other all things remaining same). The chart in the next page highlights this deviation. It shows the pretax net income with constant royalty @15% and with the existing royalty structure. Moreover, when oil prices averaged US\$45/b in 2016, Aramco's adj. earnings was US\$81bn, around 3.6 times the US\$22bn of the IOCs. However, when oil prices surged to US\$72/b, Aramco's earning was US\$213bn, only 1.6x the IOCs at US\$131bn. Although there were one-off costs and losses in 2016, in future the growth in earnings from the increase in oil prices is likely to be more for peers as compared to Aramco, which implies that the "growth" factor to be considered for Aramco has to be lower. Moreover, the different scale of RoACE and tax rate difference between Aramco and its peers make it difficult to find a right EV/EBITDA multiple in our view.



Figure 15 Pre-tax net income per barrel based on different royalty structures



Source: Company Data, Al Rajhi Capital

Scenario analysis

Based on various oil prices scenarios, keeping other drivers constant, we get the below range of FCF and valuations based on NAV and DCF methods.

Figure 16 Scenario analysis - Oil prices

	Brent oil prices (US\$/bbl)						New DCF	% change from base	New NAV	% change	FCF (US\$bn)					
	2020	2021	2022	2023	2024	2025					2020	2021	2022	2023	2024	2025
-20%	51.3	51.3	51.3	51.3	51.3	51.3	1,565	-17.6%	1,021	-18.7%	74	81	83	85	88	90
-15%	54.5	54.5	54.5	54.5	54.5	54.5	1,645	-13.4%	1,078	-14.1%	77	86	88	89	92	95
-10%	57.7	57.7	57.7	57.7	57.7	57.7	1,724	-9.2%	1,135	-9.6%	80	90	92	94	96	99
-5%	60.9	60.9	60.9	60.9	60.9	60.9	1,804	-5.1%	1,192	-5.0%	83	94	96	98	101	104
Base	61.3	61.9	65.0	65.0	65.0	65.0	1,900	0.0%	1,255	0.0%	84	95	101	103	106	110
5%	67.3	67.3	67.3	67.3	67.3	67.3	1,964	3.3%	1,307	4.1%	90	102	105	106	109	113
10%	70.5	70.5	70.5	70.5	70.5	70.5	2,043	7.5%	1,364	8.7%	93	107	109	111	114	117
15%	73.7	73.7	73.7	73.7	73.7	73.7	2,098	10.4%	1,407	12.1%	94	109	112	114	117	120
20%	77.0	77.0	77.0	77.0	77.0	77.0	2,142	12.7%	1,444	15.0%	96	112	114	116	119	123
Median consensus - Brent	61.3	61.9	65.0	65.0	65.0	65.0	1,900	0.0%	1,255	0.0%	84	95	101	103	106	110

Source: Bloomberg, Al Rajhi Capital



Factors that could move our estimates

Upside factors:

- Higher than expected oil and gas prices
- Higher market share gains as weaker competitors exit
- Improved macro-economic growth
- Further captive expansion opportunities
- Higher than expected decline in local energy consumption leading to higher export volumes
- Faster than expected ramp up of newly commissioned projects
- Any favorable change in tax/royalty structure
- Completion of value accretive acquisitions

Downside factors:

- Lower than expected oil and gas prices
- Weaker macro-economic growth
- Higher than expected increase in capex for expansions
- Climate change concerns
- Geo-political tensions
- Delay in commercialization of new/expansion projects
- Change in policies on royalty and tax detrimental to minority shareholders
- Impairment of assets
- If KSA were to remove SAR as a pegged currency to US\$ in future and the SAR were to appreciate, the company's SAR-denominated cost of operations might witness a significant increase, which could affect its operations and financial condition materially
- Peak oil scenario: This pertains to the very long term scenario where the total global demand drops to below Aramco's current level of production.
- When the demand for the company's products exceeds its production, Aramco needs to purchase these products from third parties. Although these purchases are made when it is cost effective for the company, the total purchase cost would have been higher than its cost of production. This may affect its cash flows, and thereby likely to bring the valuation downward.



Key FAQ on the company

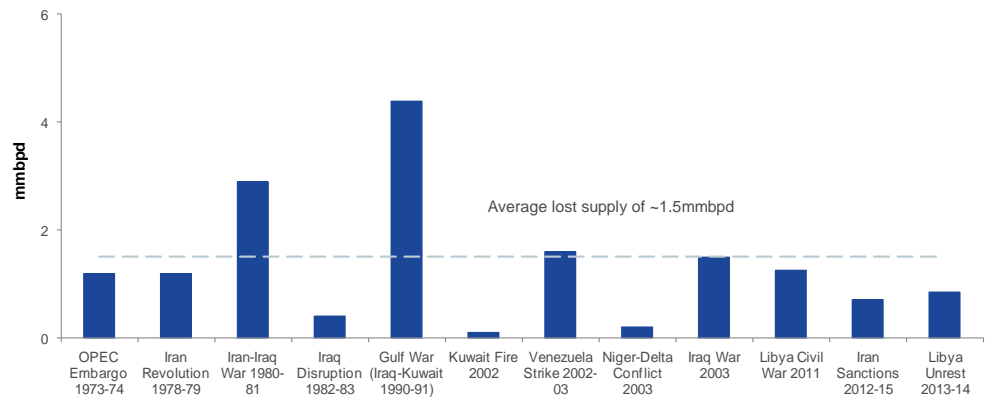
What is the importance of Aramco to global markets?

Large fluctuations in oil prices could have repercussions in other asset classes through cascading effects of oil price (eg. inflation/food prices etc.). The recent attack on Abqaiq saw global oil prices increasing by more than 14% with impacts witnessed in equity markets worldwide. Saudi Aramco is the world's largest oil producer, accounting for ~33% of OPEC total crude output and ~10% of the total global crude production as of Aug 2019 (source: EIA). And thus, collective decisions by OPEC (and by virtue of it, Aramco's production) have implications on oil prices, globally. Moreover, the company's excess oil production capacity enables it to adjust its production output during unexpected shortages from other global producers, reflecting its importance for balancing global oil markets. The company is the most profitable hydrocarbon company (US\$111bn in 2018 vs. US\$23bn for Shell and US\$21bn for Exxon), aided by the lowest cost of production and ample reserves. Accordingly, the company's RoACE stood at 41.1% in 2018, significantly higher than major IOCs. Concerns of peak oil aside, we believe being the core key supplier and part of OPEC, it becomes a collective global interest to protect Aramco's interests.

Why do we believe the cost of risk is over-stated?

The cost of risk has often been over estimated in the investor community. Looking at past data, there have been multiple periods of time where supply had been disrupted in the past, which are given as follows. However, the average loss in supply has been only 1.5mmbbl/day on an average. Even after the recent Abqaiq attack, the production recovered very shortly.

Figure 17 OPEC supply capacity disruptions

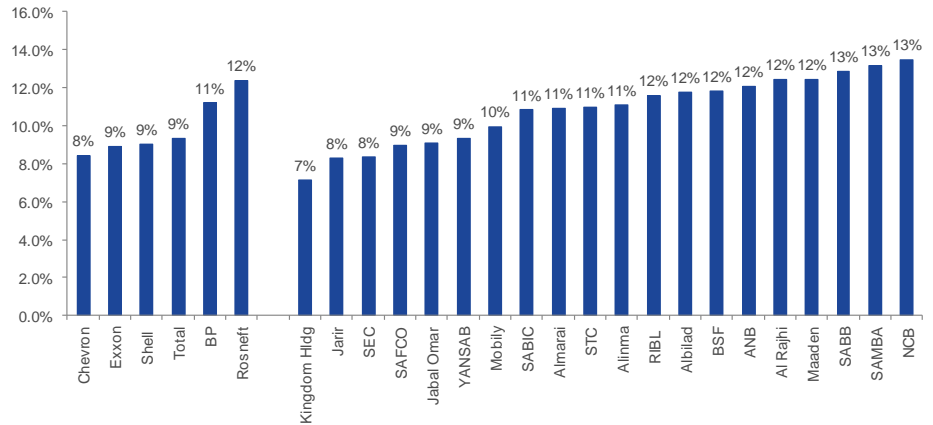


Source: Aramco, Al Rajhi Capital

We also note that the cost of equity of Saudi's largest listed peers (based on Bloomberg) ranges from 7% to 14% with a median cost of equity at around 11%.



Figure 18 Cost of equity* for major oil producers and top Saudi companies



Source: Bloomberg, Al Rajhi Capital. As of October 29, 2019

Why is the comparison with National oil companies not right?

While people skills may be perceived generally less important for commodity-based companies vis-à-vis technology firms, examples of national oil companies suggest otherwise. For example, the mismanagement of companies in Latin American state-owned or National Oil companies (NOCs) such as Petróleos de Venezuela (pdvsa) has resulted in oil production plunging despite having the largest reserves in the world. Latin American energy companies account for around 10% of global oil output and 20% of proven reserves and National oil companies control about 90% of the world’s oil and gas reserves. Other examples are Petrobras and Pemex where political interference has resulted in mismanagement of resources and thereby destruction of value. Some media commentary suggests that Aramco could be valued at par with the NOCs of Venezuela, Peru, Mexico, Brazil, etc. However, when we look at the management and board of the company, unlike the case of NOCs where the management are from the general and unrelated fields, Aramco’s management are veterans working for more than 35 years. The average years served in Aramco by an employee is 20+ (25+years for Saudi nationals). Furthermore, Saudi nationals account 88% of the total workforce, whereas expats are 12% of the total employees. Around 95% of the senior management is represented by Saudis. The company also creates an ecosystem of talent nurturing and grooming.

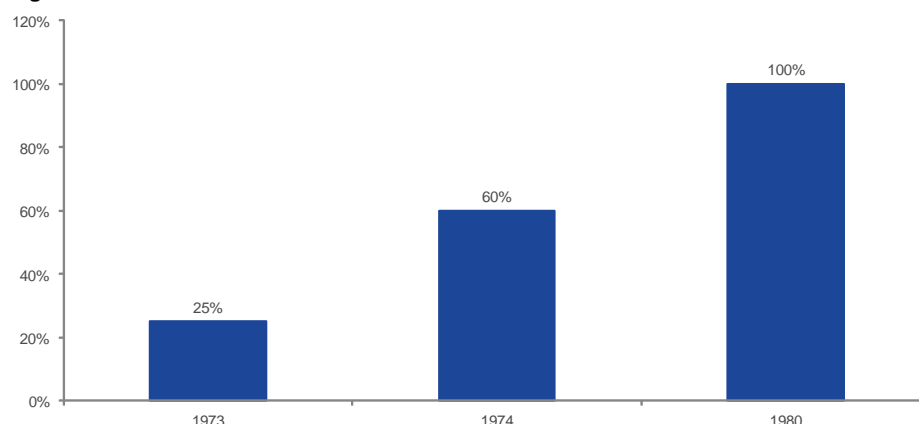
What is the distinction between the state and the company?

Given that the company falls under the jurisdiction of the Government, it needs to abide by the Kingdom’s laws. However, the company is distinct from the Government and operates on a commercial basis, including the investments that are decided at its own discretion. Apart from royalties and taxes, the Government determines the MSC and production level. MSC refers to the average maximum number of barrels per day of crude oil that can be produced for one year during any future planning period, after taking into account all planned capital expenditure, maintenance, repair, and operating costs, and after being given three months to make operational adjustments.

Moreover, the law of the Kingdom prohibits directors from sharing company’s confidential information with the Government, other than at the Annual Meeting in the Government’s capacity as a shareholder. Saudi Aramco’s Board of Directors includes five directors that are independent from the company and its shareholders. All Committees are chaired by independent directors comprising a majority of each of Audit and Compensation Committees.



Figure 19 Government stake



Source: Company Data, Al Rajhi Capital

Figure 20 Board of directors of Saudi Aramco

Name	Designation	Position held since	Most notable current/previous positions
Amin H. Nasser	President and CEO	Jan-15	<ul style="list-style-type: none"> Senior Executive Program at Columbia University in 2002. Board of Trustees of the the WEF's International Business Council (IBC); the MIT Presidential CEO Advisory Board Member of the International Advisory Board of the King Fahd University of Petroleum and Minerals
Nabeel A. Al Mansour	Senior VP, general counsel and corporate secretary	May-17	<ul style="list-style-type: none"> Served as Associate General Counsel from April 2011 to February 2014 In February 2014 was appointed Executive Director of the Procurement and Supply Chain Management Organization, responsible for overseeing the corporate supply chain, contracting activities Then named as Vice President of that organization in May 2015
HE Yasir Othman Al-Rumayyan	Chairman of Board of Directors	Jun-16	<ul style="list-style-type: none"> Member of the Council of Economic and Development Affairs, and the Governor of the Public Investment Fund Advisor to the General Secretariat of the Council of Ministers, the Chairman of the Decision Support Center Board member of Saudi Industrial Development Fund.
HE Dr. Ibrahim A. Al-Assaf	Board of Director	Jan-99	<ul style="list-style-type: none"> Minister of Foreign Affairs, and a member of the Council of Ministers Previously been the Minister of Finance of Saudi Arabia Governor of the Islamic Development Bank and serves as a Governor at the International Monetary Fund and Arab Monetary Fund
HE Mohammed A. Al-Jadaan	Board of Director	Apr-18	<ul style="list-style-type: none"> Minister of Finance for Saudi Arabia, Chairman of the Board of Directors of the General Authority of Zakat and Tax Chairman of the Fiscal Balance Program Committee, Chairman of the Financial Stability Committee, and Chairman of the Board of the General Authority of Customs Board of Governors of the International Monetary Fund, and the Board of Governors of the World Bank
HE Nabeel Mohamed Al-Amudi	Board of Director	-	<ul style="list-style-type: none"> Minister of Transport for Saudi Arabia Chairman of the Board of Directors of the General Authority of Civil Aviation, Public Transport Authority, Saudi Ports Authority, Saudi Railways Organization, and Saudi Railways Company
HE Mohammad M. Al-Tuwaijri	Board of Director	Apr-18	<ul style="list-style-type: none"> Minister of Economy and Planning for Saudi Arabia Chairman of the General Authority for Statistics, and is a member of the Saudi Council of Ministers Formerly served as CEO and Head of HSBC's Global Banking & Markets, Middle East & North Africa (MENA.), and as Managing Director of JP Morgan Chase Bank, Saudi Arabia
Sir Mark Moody-Stuart	Board of Director	Sep-09	<ul style="list-style-type: none"> Vice Chairman of the UN Global Compact, and Chairman of the Global Compact Foundation Previously served as Managing Director of Royal Dutch Shell, as a Non-Executive Chairman of Anglo American, and as Director of Accenture Formerly served as Non-Executive Director of HSBC Holdings plc, and also served as co-Chairman of the G8 Task Force on Renewable Energy Board of Directors of IBM Corporation, an Executive Committee Member and past Chairman of the U.S. Business Council
Mr. Andrew N. Liveris	Board of Director	Jul-18	<ul style="list-style-type: none"> Board of Trustees of the King Abdullah University of Science and Technology Formerly served as Chairman and CEO of The Dow Chemical Company, and was a member of the Board of Directors of DowDuPont Inc. and of Citigroup
Mr. Andrew F.J. Gould	Board of Director	Jul-13	<ul style="list-style-type: none"> Chairman of the International Advisory Board at Boston Consulting Group Center for Energy Impact, and as Director of BJ Services Formerly served as Non-Executive Chairman and Non-Executive Director of BG Group plc, and served as the CEO and Chairman of Schlumberger Oilfield Services
Ms. Lynn Laverty Elsenhans	Board of Director	Apr-18	<ul style="list-style-type: none"> Board of Directors of Baker Hughes, a GE Company, as well as GlaxoSmithKline Formerly served as Chairwoman, President, and Chief Executive Officer of Sunoco Inc. and worked for Royal Dutch Shell
Mr. Peter L. Cella	Board of Director	Apr-18	<ul style="list-style-type: none"> Board of Directors of ServiceMaster Global Holdings Formerly served as President and CEO, Chevron Phillips Chemical Company LP, and as Senior Vice President, Petrochemicals, North America, BASF Corporation

Source: Company Data, Al Rajhi Capital



Figure 21 Corporate management team of Saudi Aramco

Name	Designation	Position held since	Company Tenure	Most notable current/previous positions
Amin H. Nasser	President and CEO	Jan-15	37 Years	<ul style="list-style-type: none"> Senior Executive Program at Columbia University in 2002. Board of Trustees of the the WEF's International Business Council (IBC); the MIT Presidential CEO Advisory Board Member of the International Advisory Board of the King Fahd University of Petroleum and Minerals
Nabeel A. Al Mansour	Senior VP, general counsel and corporate secretary	May-17	30 Years	<ul style="list-style-type: none"> Served as Associate General Counsel from April 2011 to February 2014 In February 2014 was appointed Executive Director of the Procurement and Supply Chain Management Organization, responsible for overseeing the corporate supply chain, contracting activities Then named as Vice President of that organization in May 2015
Mohammed Y. Al Qahtani	Senior Vice President – Upstream	Jan-16	35 Years	<ul style="list-style-type: none"> Chairman of the Saudi Aramco Shell Refinery Company (SASREF), the Dhahran Techno Valley Company Advisory Committee (DTVC), King Salman Energy City Development Company (SPARK), and the University of Hafr Al-Batin Advisory Committee (UOHB) Shareholder Representative of LUKOIL Saudi Arabia Energy Ltd and SINO Saudi Gas Ltd and a Board member of the Bilateral US-Arab Chamber of Commerce. Previously chaired the Board of Directors for the Aramco Services Company (ASC), a fully owned subsidiary in Houston, Texas..
Abdulaziz M. Al-Judaimi	Senior vice president of Downstream	May-17	35 Years	<ul style="list-style-type: none"> Previously served as acting Business Line Head for the business line, vice president, Power Systems Chairman of the Board for Motiva Enterprises LLC (Motiva) and Rabigh Refining & Petrochemical Company (Petro Rabigh); and is the shareholder representative on the Saudi Aramco Total Refining & Petrochemical Company (SATORP) and the Saudi Electricity Company (SEC) boards From April 2004 to June 2006, Al-Judaimi was president & CEO of Aramco Gulf Operations Co. Ltd. in al-Khafji
Ahmad A. Al-Sa'adi	Senior vice president, Technical Services	Jan-16	38 Years	<ul style="list-style-type: none"> Previously, vice president of Pipelines, Distribution, and Terminals Previously, president and CEO for Aramco Gulf Operations Company (AGOC), and chairman of the AGOC Executive Committee
Muhammad M. Al-Saggaf	Senior vice president, Operations and Business Services	Jan-14	29 Years	<ul style="list-style-type: none"> Previously, President of the King Abdullah Petroleum Studies and Research Center (KAPSARC) Previously, chief petroleum engineer, head of upstream research and development, president of the Dhahran Geoscience Society (DGS), a member of Saudi Aramco's Corporate Innovation Board, vice-chairman of the Board of SPE-Saudi Arabia Section, and vice-chairman of the board of directors of the South Rub' al-Khali (SRAK) company
Khalid H Al-Dabbagh	Senior vice president of Finance, Strategy and Development	Sep-18	35 Years	<ul style="list-style-type: none"> Previously, Aramco's financial controller, executive head of Treasury and manager of Business Analysis Department at Corporate Planning. Previous positions he held included manager of Saudi Aramco's Crude Oil Sales and Marketing; director of Joint Venture Development and Support; President and CEO of Saudi Petroleum International Inc. in New York; and General Manager of Saudi Petroleum Limited in Tokyo Formerly served as a Board Director with Showa Shell, Fujian Refining and Petrochemical Company, Luberef, SUMED, and vice chairman of Sinopec SenMei Products Company.

Source: Company Data, Al Rajhi Capital



Why does Aramco purchase crude oil and refined products when it already produces 13.6mmbpd (2018)?

Purchases are being made for use in the company's downstream operations and to meet demand for products in the Kingdom when it exceeds the company's production of the relevant product. The Company also purchases products from third parties when it is cost effective. For 2017 and 2018, the company made purchases of SAR188.9bn (US\$50.4bn) and SAR120.4bn, respectively. This 57% increase was primarily attributed to increased purchases of volumes of crude oil and refined products as well as an increase in the prevailing market prices for those products. As a percentage of revenue and other income related to sales, the company's purchases increased to 14% for 2018 from 12% for 2017. Purchases include both local and international (eg. purchases made by Motiva) purchases. As per Al Rajhi Capital's calculations, in 2018, the company had imported 0.3mmbpd of refined products which was around SAR33bn (based on an approx. US\$80/b price), implying 17% of total purchases as per our assumptions (This is apart from local refined product purchases which we assume to be around 0.5mmbpd in 2018). The imports were done mainly to cater to the increased demand locally for specific grades of oil. These imports were balanced by exports of refined products (0.5mmbpd; source: company data).

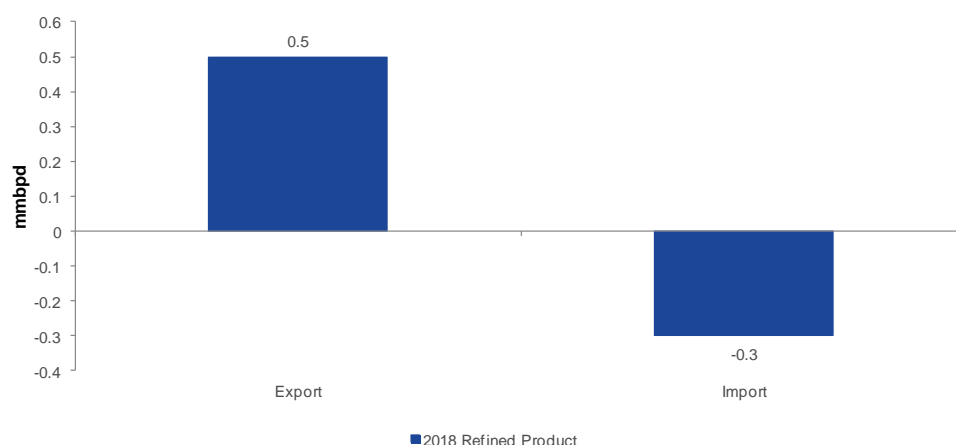
Figure 22 Historical purchase summary

US\$bn	2016	2017	2018
Refined products	12.8	24.8	38.7
Crude oil	0.8	6.6	11
Other	0.6	0.7	0.7
Total purchases	14.2	32.1	50.4

Source: Company data, Al Rajhi Capital

The company made purchases of SAR120.4bn and SAR53.2bn for 2017 and 2016, respectively. This 126% increase was primarily attributable to an increase in purchases of crude oil and refined products resulting from the consolidation of Motiva into the company's financial statements from May 1, 2017, which accounted for SAR48.6bn of purchases by the company. As a percentage of revenue and other income related to sales, the company's purchases increased to 12% for 2017 from 11% for 2016.

Figure 23 2018 export/import of refined product



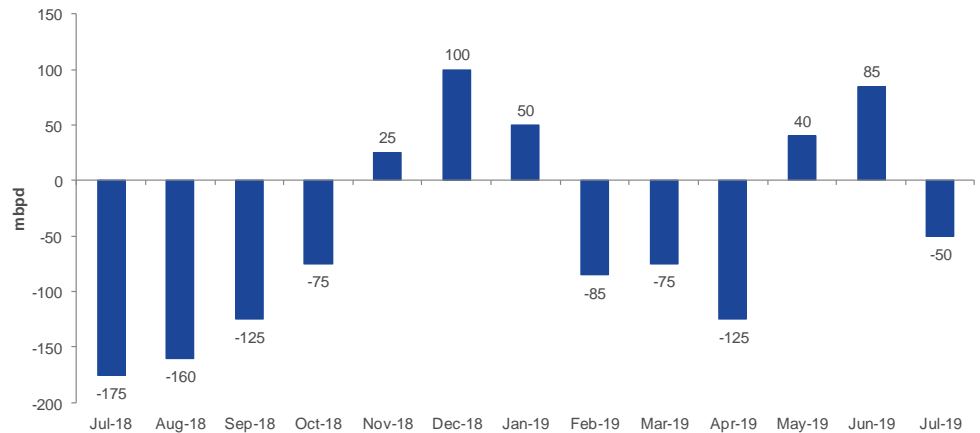
Source: Company data, Al Rajhi Capital

What is the benefit from decline in local energy needs?

As per Sept 2019 OPEC report, there has been a marginal decline of 0.04mmbpd in direct local crude used which could be because of declining energy needs. This would free up more crude for exports. Based on an assumed average selling price of US\$60/bbl and upstream lifting cost of US\$2.8/boe, it implies a gross profit benefit of US\$835mn.



Figure 24 Direct crude oil use YoY change (mbpd)

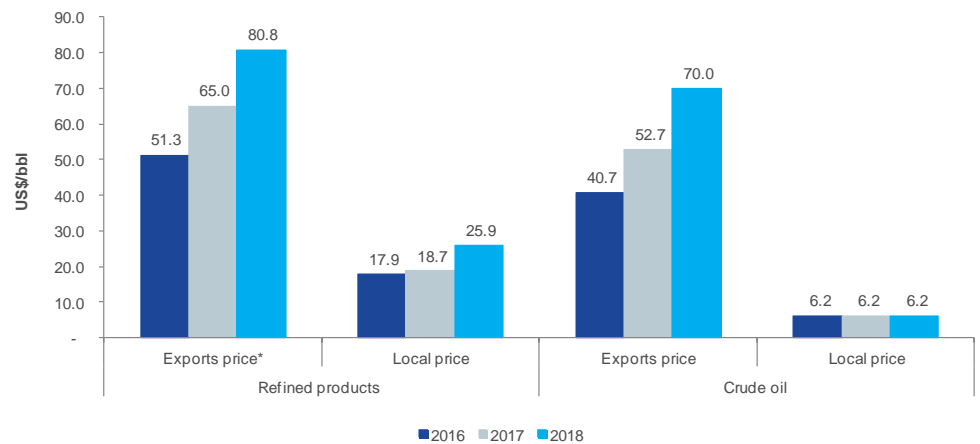


Source: OPEC, Al Rajhi Capital

What are Aramco’s selling prices to its own refineries and to domestic firms?

Aramco’s wholly owned refineries and JVs buy crude at almost the same price as international firms as per our assumptions. The pricing for refined goods exports and local sales as well as crude exports and local sales is shown as follows.

Figure 25 Refined products and crude oil prices



Source: Company Data, Al Rajhi Capital. * Export prices of refined products (S-Oil, Motiva, ATC and SAOC)

Based on the above chart and our assumptions, the gross refining margins for exports could be around US\$10.8/boe (US\$80.8 per boe – US\$70.0 per boe), US\$13.3/boe, and US\$10.6/boe for 2018, 2017, and 2016, respectively. Please note that these are not standard definition but for representation purposes only.

The company possesses the exclusive right to sell crude oil and refined products in the Kingdom. The government mandates that crude oil and certain refined products sold to third parties in the Kingdom are at regulated prices that are typically lower than the prices at which the company could otherwise have sold such products. As the regulated prices often have been lower than the prices at which the company could otherwise have sold such refined products, prior to 2017, the downstream business incurred losses in its operations.

Effective January 1, 2017, the government implemented an equalization mechanism to compensate the company for revenue directly foregone as a result of the company’s compliance with the mandates related to crude oil, kerosene, diesel, heavy fuel oil, and



gasoline. The company records the equalization amount as other income related to sales on its consolidated statement of income and such amount is subject to income tax. The company may offset its income taxes payable by the equalization amount in the period in which such taxes are due. If the income taxes payable to the government are not adequate to offset the equalization amount, the company may offset any other amounts it owes to the government against the equalization amount. The offsetting mechanism occurs on a monthly basis when payments to the government are due. In the event of the equalization price being less than the regulated price, the difference would be due from the company to the government.

What happens when the government increases the regulated prices?

The government has publicly announced its intention to gradually modify the regulated prices at which refined products are sold in the Kingdom. The regulated prices will be linked as a percentage to the reference equalization price of the relevant product and will change according to fluctuations in global markets. As regulated prices increase, the company expects that equalization compensation will decrease and that, in turn, the amount of other income related to sales recorded by the company will decrease, with an offsetting increase in revenue from product sales.

Gas pricing: Gas sales in the Kingdom are regulated by the government, including Ministry of Energy, Industry and Mineral Resources (MEIM), which allocates volumes for the sale of natural gas and NGLs in the Kingdom to domestic customers pursuant to the GSPR. The price that domestic customers pay for natural gas and ethane is traditionally set by the Council of Ministers. Effective March 27, 2018, the Council of Ministers empowered MEIM, in agreement with the Ministry of Finance, to specify the minimum price due to those licensed to engage in gas investment for the sale of natural gas, ethane, and NGLs, in order to provide such licensees making gas investments an opportunity to realize a suitable rate of return for these products in the Kingdom. The Council of Ministers also decided that the domestic prices for natural gas, ethane, and NGLs (excluding any Government fees or value-added tax) shall not be lower than this minimum price. If domestic prices are higher than the minimum price, licensees shall pay the difference to the government. Subsequently, MEIM in agreement with the Ministry of Finance issued a ministerial decision setting such minimum price at a level they determined would permit licensees to achieve the commercial return on existing non-associated gas projects and on future non-associated projects.

Why invest in downstream if the EBITDA from downstream is relatively minor. (US\$6.6bn in 2018 as compared to company EBITDA of US\$223.9bn)

The company is investing in downstream to protect and increase its upstream revenues. When the company invests in a downstream company, the upstream also stands to benefit when the invested entity procures hydrocarbons from upstream segment. Thus this would mean increasing upstream sales as and when the downstream segment grows. Hence even if the downstream segment barely breaks even, the company would benefit by means of its high margin upstream segment. If the downstream company is not consolidated, then even the additional capital required for downstream expansion is not on Aramco's balance sheet. Thus the main motive for Aramco to invest in downstream would be to ensure growth in its upstream.

What is the impact of IFRS 16 adoption?

IFRS 16 was adopted on 1 Jan 2019 and the main impact was an increase in lease liabilities by US\$7bn. This is calculated based on present value of remaining lease payments.



Why invest in gas if margins are lower for gas as compared to oil?

The below chart explains the strategy of the company. The numbers are all based on our interpretations and assumptions. Based on 2018 numbers, we see that the gross margin of crude oil exports (US\$67.2/bbl) is likely much more than that of hypothetical gas export margins (US\$14.2/boe) or even refined products (US\$10.8/boe). Thus reallocating all gas for local needs and exporting crude (used locally) would be beneficial to the company.

Figure 26 Indicative gross margin mix of each product*

	2018
Crude oil export sales margin (US\$/bbl)	
Avg. realized export sales price	70.0
Cost**	2.8
Margin	67.2
Crude oil local sales margin (US\$/bbl)	
Avg. realized local sales price	6.2
Cost**	2.8
Margin	3.4
Refined products (S-Oil, Motiva, ATC and SAOC) export margin (US\$/bbl)	
Avg. realized export refined products sales price	80.8
Cost**	70.0
Margin	10.8
Refined products local margin (US\$/bbl)***	
Price	25.9
Cost	70.0
Margin	-44.1
Sweet gas sales local margin (US\$/bbl)	
Price	6.7
Cost**	2.8
Margin	3.9
LPG sales export margin (US\$/bbl)	
Price	39.2
Cost**	2.8
Margin	36.4

Source: Al Rajhi Capital. * Based on our calculations. ** Assumed upstream lifting costs of US\$2.8/boe is equal to US\$2.8/bbl across all the products categories. *** Excluding the benefit of price equalization. If we include this benefit, then it would be the same as refined products export margin, i.e. US\$10.8/bbl.

What is the scope for gas exports?

As per IHS, gas demand in the Kingdom is expected to grow by 3% . Now, there are major gas projects coming online and hence the difference between this demand and supply could be used for gas exports. However the company may have to supply gas to replace liquids usage within the Kingdom and hence exports may take some time but we see a possibility of gas exports in the long term.

What is the incremental profit contribution from upcoming projects?

Based on our assumptions that include average oil price US\$63.0/barrel, US\$10.0/boe premium for downstream products, and 100% throughput, the incremental net profit contribution from the projects (shown below) is likely to be around US\$12.5bn, over various periods of time.



Figure 27 Incremental contribution to net income from the upcoming projects based on our estimate

Timeline	Ownership	Name	Gross refining capacity (mmbpd)	Revenue (US\$bn)	Cost (US\$bn)	Royalty (US\$bn)	Other costs (US\$bn)	Profit before tax (US\$bn)	Tax (US\$bn)	Profit after tax (US\$bn)
H2 2020	100%	Jazan integrated plant	0.40	10.51	0.41	1.36	1.05	7.69	3.41	4.29
H2 2020	50%	Prefchem	0.30	3.94	3.39	0.00	0.39	0.15	0.03	0.12
H2 2020	100%	Upstream sales to Prefchem	0.15	3.39	0.15	0.51	0.34	2.39	1.20	1.20
H1 2020	17%	Hyundai oil*	0.65							0.20
2023	100%	Marjan gas project	0.46	1.34	0.47	0.00	0.13	0.74	0.15	0.59
2020	100%	Fadhili gas project	0.46	1.34	0.47	0.00	0.13	0.74	0.15	0.59
2021	100%	Haradh gas project	0.20	0.58	0.20	0.00	0.06	0.32	0.06	0.26
2020	62.5%	SATORP	0.04	0.66	0.57	0.00	0.07	0.03	0.01	0.02
2020	62.5%	YASREF	0.03	0.49	0.42	0.00	0.05	0.02	0.00	0.02
2020	100%	Upstream sales to SATORP/YASREF	0.07	1.58	0.07	0.24	0.16	1.12	0.56	0.56
3Q 2019	100%	Increased ownership at SASREF	0.31	0.56	0.00	0.00	0.06	0.50	0.24	0.26
2023	100%	Crude capacity at Marjan	0.30	6.79	0.31	1.02	0.68	4.79	2.39	2.39
2023	100%	Crude capacity at Berri	0.25	5.66	0.26	0.85	0.57	3.99	1.99	1.99
Total										12.49

Source: Al Rajhi Capital. * post acquisition; Note: Incremental contribution does not include Aramco's proposed deal of 20% stake in Reliance Industries Ltd and Motiva's recent agreement to acquire 100% ownership interest in Flint Hills Resources Port Arthur, LLC.

What was impact of the recent attacks on Abqaiq and Khurais?

Saudi Aramco's oil processing plants at Abqaiq and Khurais were attacked on 14 September, 2019, leading to a temporary production suspension of 5.7mn barrels a day of crude oil (~54% of the Kingdom's crude oil production; source: company data). However, Saudi Aramco's actions included: a) utilizing its crude oil inventory located outside of the Kingdom, b) increasing output from other facilities, c) stop supplying of crude to its international JVs, d) substituting grades of crude deliveries, and e) limiting NGL deliveries to selected clients. Furthermore, given the reduction in gas output, the domestic power plants had also partially shifted to crude burning. Nonetheless, the company managed to recover its production to the earlier level on 25 September, 2019, reflecting a limited impact on its financial performance.

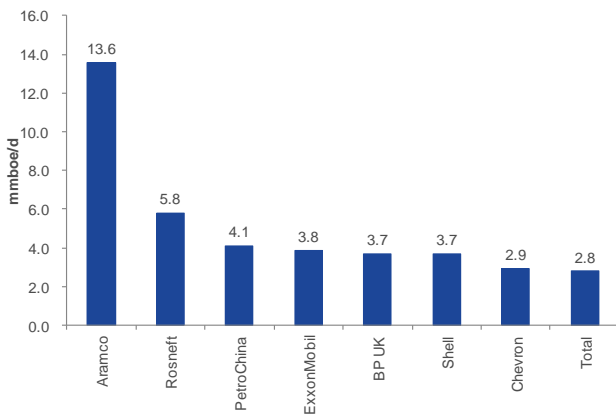


Comparison with peers

Largest hydrocarbon producer globally

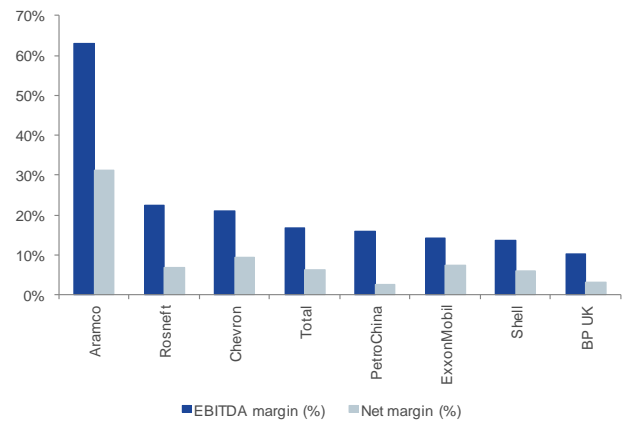
Saudi Aramco produced 13.6mmbpd in 2018, almost 4.6x of Chevron's production, 3.7x of BP's production, and 3.5x of Exxon's total output. With a significant spare oil production capacity of 2.27mmbpd as of August 2019 (source: IEA), the state-oil giant is well positioned to adjust its production output in case of shortages from other producers globally. This also provides the company a notable control on the market over other global producers.

Figure 28 Aramco vs. Top IOCs production comparison (2018)



Source: Company data, Bloomberg, Al Rajhi Capital

Figure 29 Aramco vs. Top IOCs margins comparison (2018)

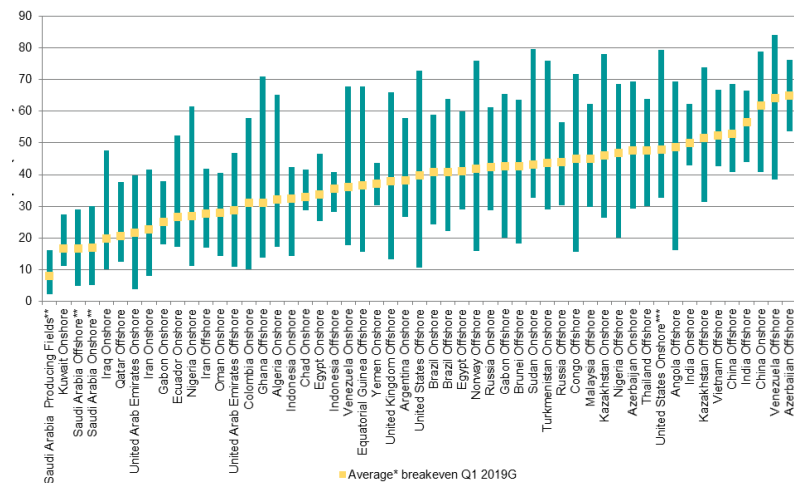


Source: Company data, Bloomberg, Al Rajhi Capital

Cheapest production costs enable the company to generate higher margins

Saudi Aramco is the most profitable company (US\$111bn in 2018) in the world with EBITDA and net profit margins of 62.9% and 31.2% (margins are calculated based on sales including other income related to sales in which price equalization is booked), respectively, in 2018, far higher than its peers (Exxon: 14% EBITDA margins and 7.5% net margins). These high margins were mainly driven by low upstream production cost compared to its peers (Figure 30).

Figure 30 Full-cycle costs in terms of 2019 dated Brent (US\$/bbl)



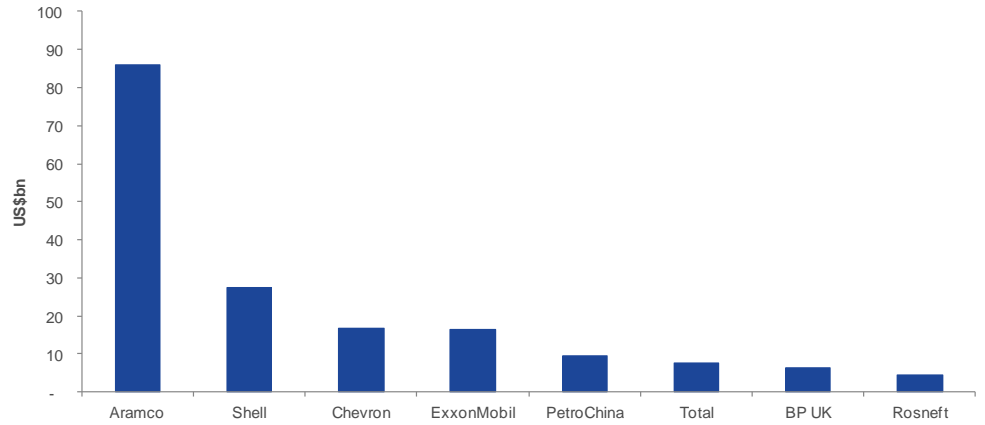
Source: Aramco prospectus, Al Rajhi Capital

In a nutshell, large-scale production along with lowest upstream production costs enables the company to generate strong free cash flows, compared to big IOCs. In 2018, Saudi Aramco generated a free cash flow of ~US\$86bn, which was 5x of Exxon and 3x of Shell. Higher free



cash flow generation capability also ensures a higher payout in the form of dividend, compared to its peers.

Figure 31 Aramco vs. Top IOCs FCF comparison (2018)



Source: Company Data, Bloomberg, Al Rajhi Capital

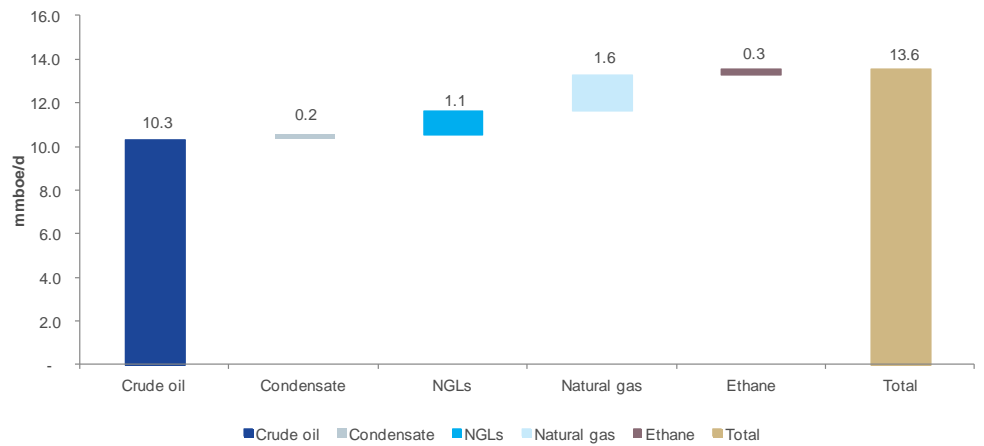


Segmental Overview

Upstream

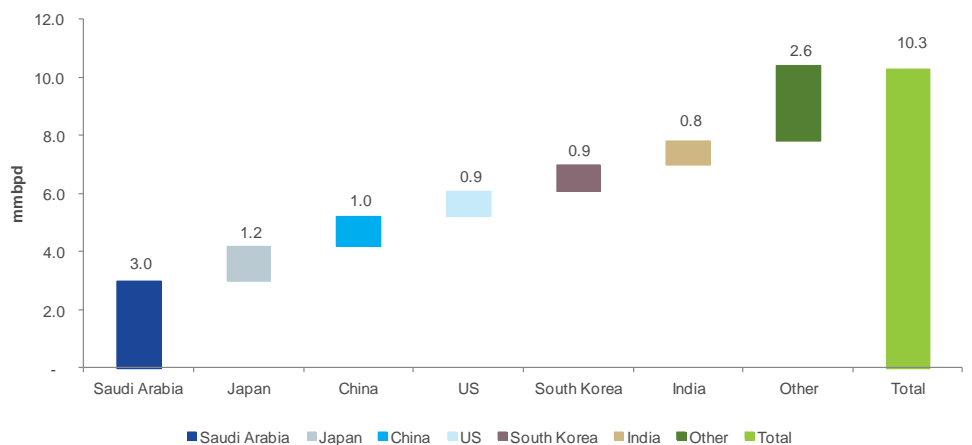
The company is the world's leading producer of crude oil and condensate. In 2018, the company had a total production of 13.6mmboed, including 10.3mmboed of crude oil (including blended condensate), an additional 0.2mmboed of unblended condensate, 1.1mmboed of NGLs, 8.9bnscfd (1.6mmboed) of natural gas, and ~1.0bnscfd (0.3mmboed) of ethane. Aramco produces a higher percentage of liquids (86%), which enables the company to generate higher margins than with the production of gas.

Figure 32 Production break-up – 2018



Source: Company Data, Al Rajhi Capital. Combined barrel of oil equivalent volume is derived from mmscfd (for natural gas and ethane) by dividing the relevant product production by 5.4 (in the case of natural gas) and 3.33 (in the case of ethane).

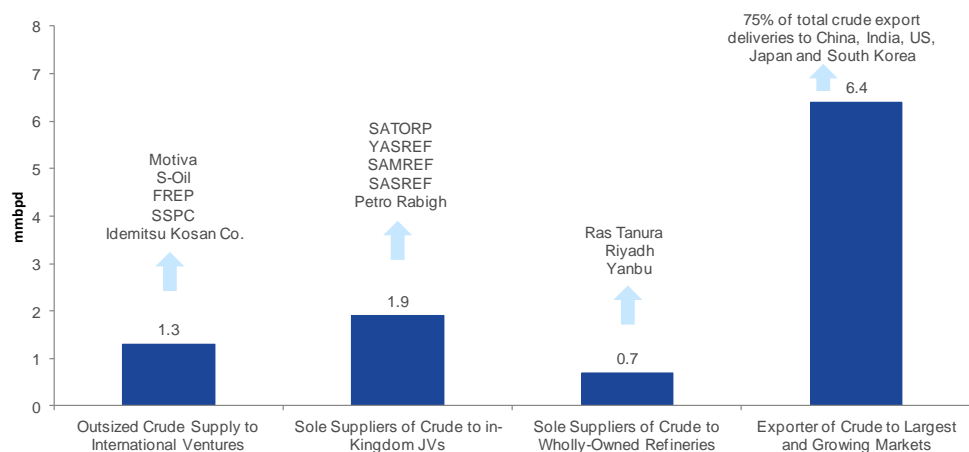
Figure 33 Saudi Aramco 2018 crude supply by region



Source: Company Data, Al Rajhi Capital

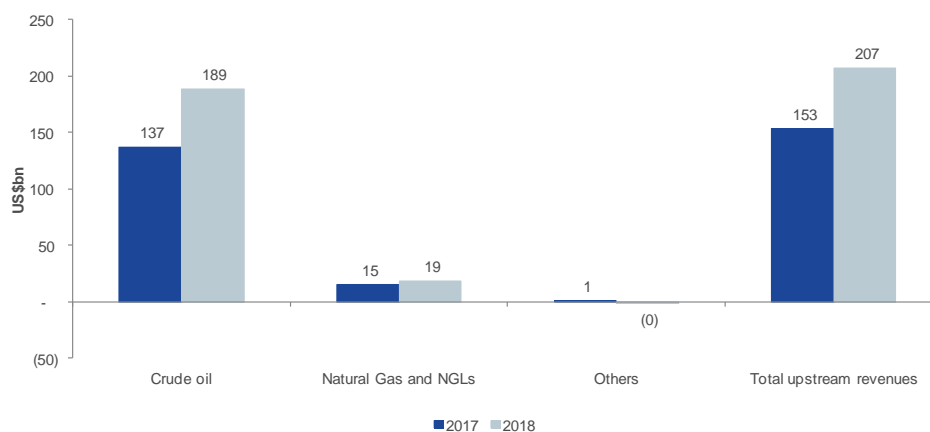


Figure 34 2018 Crude Supplied to Captive System



Source: Company Data, Al Rajhi Capital

Figure 35 Aramco's upstream 2018 revenue breakup*



Source: Company Data, Al Rajhi Capital. *External revenue only; excludes inter-segmental revenue and other income related to sales

Figure 36 Key upstream financials

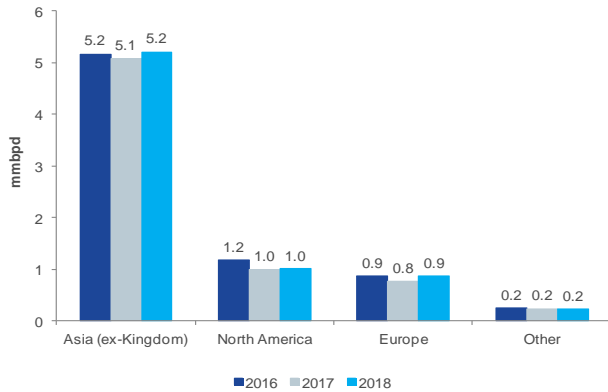
	2016	2017	2018
Combined daily production (mmbode/d)	13.6	13.2	13.6
Exports (mmbode/d)	7.8	7.5	7.7
Local deliveries (mmbode/d)	5.4	5.5	5.5
Avg. export realized price (US\$/bbl)	40.7	52.7	70.0
Avg. local realized price (US\$/bbl)	6.2	6.2	6.2
Total upstream revenues (US\$bn)		153	207
EBITDA (US\$bn)		160	220
Capex (US\$bn)		22	27

Source: Company Data, Al Rajhi Capital

Contribution of countries, and its growth – In 2016, 2017, and 2018, customers in Asia, including the company's affiliated refineries located in Asia, purchased 69%, 71%, and 71%, respectively, of the company's crude exports.

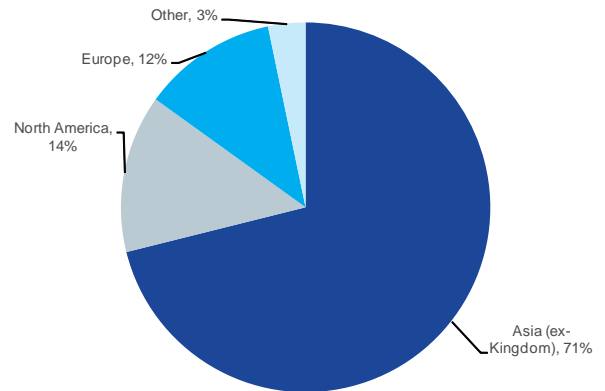


Figure 37 Aramco's crude oil deliveries by destinations



Source: Company Data, Al Rajhi Capital

Figure 38 Aramco's 2018 crude oil deliveries by destinations (%)



Source: Company Data, Al Rajhi Capital

Maximum sustained capacity

Maximum sustained capacity (MSC) refers to the average number of barrels per day of crude oil that can be produced for a year after all planned capital expenditure and other operating expenses. It is such that production at MSC beyond one year would require additional capital and operating expenses. The company's MSC remained at 12mmbpd as of 2018. The Ghawar field remained at the top with a MSC of 3.8mmbpd, followed by Khurais with a MSC of 1.45mmbpd. Moreover, the government has the exclusive power to set the production limits as well as the MSC to manage the Kingdom's hydrocarbon resources, as per the Hydrocarbons Law. Accordingly, the government has the sole discretion to increase or decrease the MSC at any time based on its sovereign energy security goals.

Future development upstream projects

Aramco has successfully executed many large upstream development projects across its fields since the mid-1990, demonstrating a solid execution capabilities. Some of most notable projects, which are currently under development phases and will significantly enhance its crude oil production and gas processing capabilities, are shown below.

Berri field:

Aramco plans to increase its Arabian light crude capacity by 250mbpd through a new processing system at the existing Abu Ali gas oil separation plant and new onshore and offshore wells. The development program includes two drilling islands, 11 offshore production platforms and 9 onshore drill sites along with one water injection facility. The field is expected to come on stream in 2023.

Marjan field:

The Marjan development program comprises an integrated development of crude oil, associated gas and non-associated gas production capacity. Crude oil production capacity at Marjan will be expanded by 300mbpd while the new Tanajib gas processing facility will have a gas processing capacity of 2.5bscf/d. The Marjan crude oil capacity increment will be available at the same time as the Tanajib gas processing facility (with NGL extraction) in 2023.

Fadhili Gas Plant:

The Fadhili Gas plant is expected to add up to 2.0bscf/d and 0.5 bscf/d of gas processing capacity for the Hasbah-II (offshore) and Khursaniyah (onshore) fields, respectively. This plant is likely to produce natural gas to the MGS, sulphur and low BTU natural gas to fuel a cogeneration plant for supplying electricity to the national power grid.



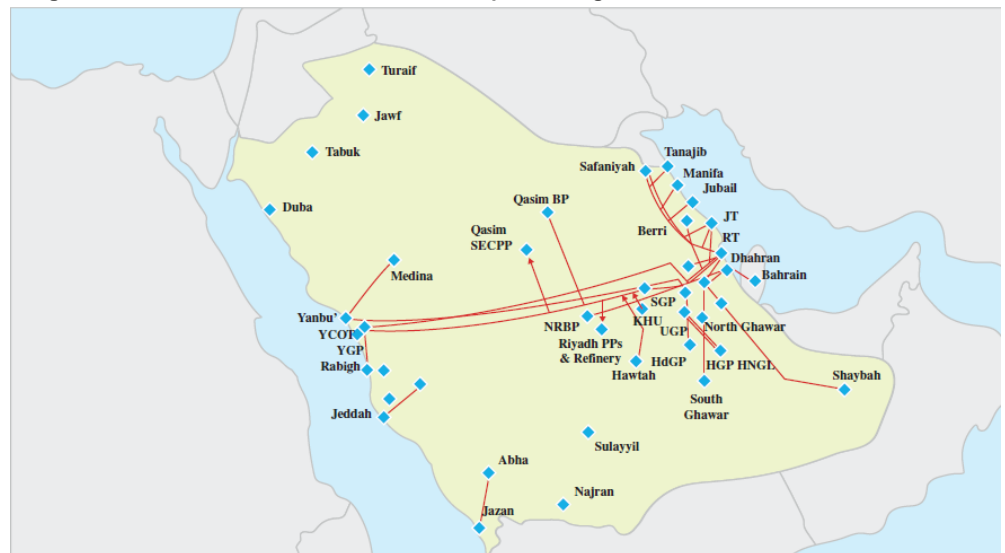
Haradh Gas increment processing facilities and Hawiyah gas plant

This plant will increase the gas processing facilities at the Hawiyah Gas plant to 3.6bcf/d, and also boost the capacity of the pipeline network transporting gas between the Haradh field and the Hawiyah plant. The plant is expected to be completed in 2021.

Extensive infrastructure and distribution network

The company's fields, processing plants and other facilities are connected through an extensive pipeline network. Through this network, the company can transport its products to its other facilities for further processing or refining or directly to export terminals. From this huge network, the East-West pipeline has a capacity of 5.0mbpd of crude oil, which is further expected to increase to 7.0mbpd by the end of 2019. Aramco's crude oil processing infrastructure facilities, which are connected through pipeline, are located and diversified across the country, as shown below.

Figure 39 The location of Aramco's crude oil processing infrastructure - 2018



Source: Company data, Al Rajhi Capital

Further, Saudi Arabia is the seventh largest natural gas market in the world and Saudi Aramco is the primary supplier of the same in the Kingdom. The company's gas and natural gas liquid (NLG) infrastructure consists of:

- 8 gas processing plants
- 2 NGL recovery straddle plants (1 another plant is currently under construction)
- 4 NGL fractionation plants
- The MGS

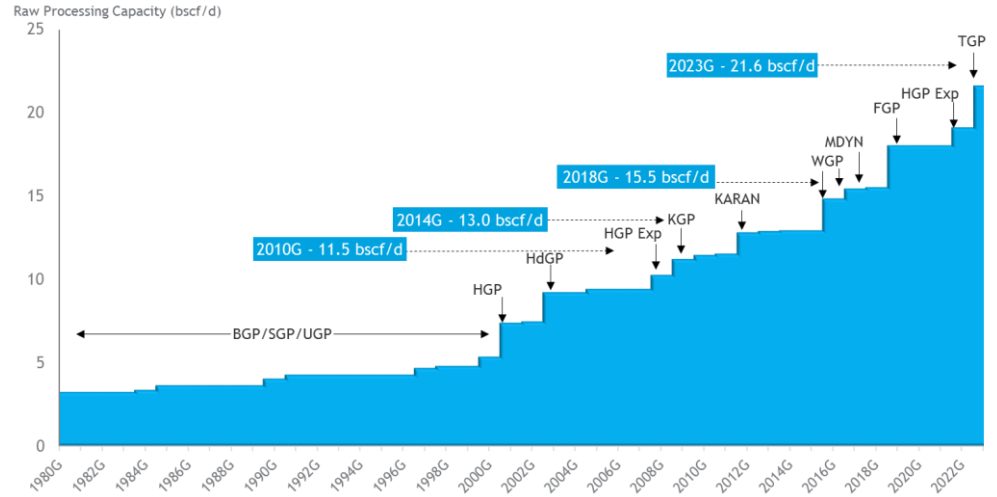
Master Gas System (MGS)

To accommodate the growing domestic demand in the Kingdom, the company is expanding its infrastructure facilities through construction of new plants and Master Gas System (MGS) network. MGS is a gas gathering, processing and distribution infrastructure network. The transportation of gas within the Kingdom is controlled by the MGS. The company had completed the phase I of the MGS network expansion project in January 2018 and raised the total capacity to 9.6bn scfd. Furthermore, phase II of the expansion project is due to be completed by 2021, which is expected to raise the total capacity to 12.5bn scfd. After the completion of phase II, 1600km of pipelines is planned to be added to the current system. The industrial cities like Yanbu and Jubail are supplied gas through the MGS network; and Rabigh will be connected with the largest pipeline of 212km, which is to be built in the coming period. Besides, four other pipelines will connect Manifa to the Khursaniya gas plant



and to Ras al-Zour for gas processing and power production. The company is further expected to expand its gas reserves through new field discoveries, new reservoir additions and reassessment of existing fields and reservoirs. The current domestic demand along with further expansion plans will be beneficial for the company in terms of revenue generation through efficient distribution of natural gas in one of the largest market globally.

Figure 40 Historical increases in gas processing capacity from 1980 to 2018 and planned increases through 2023 (excluding Shaybah gas processing)



Source: Company data, Al Rajhi Capital. BGP/SGP/UGP - Berri/Shedgum/Uthmaniyah Gas Plants, HGP Exp – Hawiyah Gas Plant Expansion, FGP – Fadhiil Gas Plant, KGP – Khursaniyah Gas Plant, HdGP – Haradh Gas Plant, MDYN – Midyan, HGP – Hawiyah Gas Plant, WGP – Wasit Gas Plant, TGP – Tanajib Gas Plant Gas Plant



Downstream

The downstream segment contributed to around 30% of top-line (including other income related to sales) in 2018. The downstream segment's primary activities consist of refining and petrochemical manufacturing and supply. The downstream segment's other business activities include crude oil sales, product distribution, trading and marketing, and power generation.

The downstream generates lesser margins as compared to the upstream. As per our estimates, the downstream segment made an EBITDA of US\$6.6bn in 2018 as compared to upstream EBITDA of US\$220bn in 2018. On a per barrel basis, as per our calculations, the EBITDA per barrel was US\$46 for upstream and ~US\$4 for downstream (refining and chemical) in 2018. In case of no increase in oil prices, we have forecasted both upstream and downstream EBITDA margin per barrel to remain stable, after adjusting for royalties.

The company's strategy is to expand downstream further, which effectively locks in higher upstream sales. As per our expectations, the company could increase the crude production to captives from 38% in 2018 to 50% in a few years. As production of local refined products increases, more oil can be used for exports. The company also plans to continue increasing its in-Kingdom refining capability and expand its strategically integrated downstream business in high-growth economies such as China, India, and Southeast Asia, while maintaining its current participation in material demand centers such as the US and countries that rely on importing crude oil such as Japan and South Korea. As for chemicals, the company intends to further integrate its chemicals business with its refining operations, increase its chemicals production capacity through debottlenecking or new assets, and increase its presence in developing and new markets to support the company's long-term growth strategy. Integration with refining allows the company to capture additional margins, balance refinery system production, and reduce margin volatility.

Figure 41 Key downstream financials

	2016	2017	2018	H1-2019
Gross Throughput (mmbpd)	4.9	4.8	4.7	4.6
Brent Price (US\$/bbl)	45.0	55.0	72.0	66.0
Revenue & other income related to sales (US\$bn)	38	101.8	138.7	64.6
EBITDA (US\$bn)	NM	8	6.6	2.4
CAPEX (US\$bn)	8.3	9.5	8.7	3.1

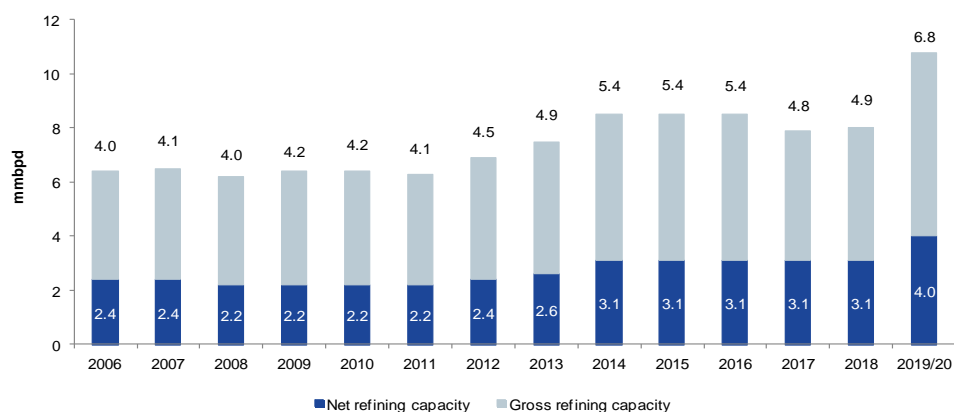
Source: Company Data, Al Rajhi Capital

Refining

The company operates its refining business through its wholly owned operations and affiliated refineries. The net refining capacity has increased from 2.2mn barrels per day in 2010 to 3.1mn barrels per day in 2018. In terms of gross refining capacity, this was 4.9mn barrels per day in 2018.



Figure 42 Aramco's refining capacity*



Source: Company Data, Al Rajhi Capital. *PrefChem is expected to be completed in 2020.

Figure 43 Refining capacity as of 2018

	Gross Refining capacity (mbpd)	Ownership	Net refining capacity (mbpd)	Utilization rate	Throughput (mbpd)
Domestically Wholly Owned Refined Operations					
Ras Tanura	550	100%	550	96%	528
Yanbu	250	100%	250	100%	251
Riyadh	130	100%	130	107%	139
Jazan - likely to be operational in 2019*	-	100%	-	-	-
Jeddah Refinery - closed in Nov 2017	-	-	-	-	-
Total wholly owned refining capacity	930		930	99%	918
Domestic Affiliated Operations					
SATORP	400	63%	250	105%	418
YASREF	400	63%	250	105%	421
SAMREF	400	50%	200	82%	328
SASREF#	305	50%	153	101%	307
Petro Rabigh	400	38%	150	97%	387
Total domestic affiliated operations	1,905		1,003	98%	1,861
International Refining					
Motiva (Port Arthur Refinery)	635	100%	635	103%	654
S-Oil	669	62%	412	98%	657
PRefChem*	-	50%	-	-	-
Hyundai oil bank**	-	17%	-	-	-
FREP	280	25%	70	63%	176
Idemitsu^	445	15%	67	96%	429
Total International refining capacity	2,029		1,184	94%	1,916
Total refining capacity	4,864		3,117	96%	4,693

Source: Company Data, Al Rajhi Capital. *Jazan plant is expected to start the production in 2019 while PrefChem refinery is expected to be completed in 2020. Therefore, we did not consider it. **Aramco has completed the acquisition. # SASREF is now 100% owned by Saudi Aramco. ^ The Idemitsu Kosan transaction is already complete and Aramco's share has reduced to 7.7%.



Figure 44 Aramco's petroleum products

In mbpd	Year Ended 31 December	
	2017	2018
Consolidated Basis		
Diesel	747	762
Gasoline	422	416
Jet fuel / kerosene	145	156
Fuel Oil	345	315
Other	233	235
Total in-Kingdom refinery production	1,891	1,884
Equity basis		
Diesel	342	447
Gasoline	212	312
Jet fuel / kerosene	167	194
Fuel Oil	109	97
Other	276	306
Total international Refinery Production	1,106	1,356
Total production - fully consolidated basis	2,998	3,239
Equity basis		
Total in-Kingdom refinery production	1,891	1,884
Total international Refinery Production	1,148	1,193
Total Production - equity basis	3,039	3,077

Source: Company Data, Al Rajhi Capital

The company expects the Jazan integrated petrochemical refinery and the PRefChem integrated refinery and petrochemicals complex to commence operations by the end of 2019 and 2020, respectively, which will increase the company's gross refining capacity to 5.6mn barrels per day and net refining capacity to 3.7mn barrels per day. However, if we are to include Hyundai oil bank acquisition and Showa Shell's acquisition of Idemitsu, then the gross refining capacity is likely to go up to 6.8mbpd and the net refining capacity to 4mbpd (Hyundai oil bank acquisition is already completed end of 2019).

The company's strategy is to continue increasing its in-Kingdom refining capability and expand its strategically integrated downstream business in high-growth economies such as China, India, and Southeast Asia, while maintaining its current participation in material demand centers such as the US and countries that rely on importing crude oils such as Japan and South Korea. As for chemicals, the company intends to further integrate its chemicals business with its refining operations, increase its chemicals production capacity through debottlenecking or new assets, and increase its presence in developing and new markets to support the company's long-term growth strategy. Integration with refining allows the company to capture additional margins, balance refinery system production, and reduce margin volatility.

Further integration also supports the production of more complex, higher-value chemicals and specialty products. Together with this capacity and portfolio growth, the company seeks to further utilize its marketing capabilities by securing product offtake from its affiliates, which would allow the company to capture margins at each stage of the hydrocarbon value chain, from upstream crude production to downstream polymer product sales and distribution.

What is the incremental profit contribution from the upcoming projects?

Based on our assumptions that include average oil price US\$63/barrel, US\$10/boe premium for downstream products, and 100% throughput, the incremental net profit contribution from the projects (shown below) is likely to be around US\$12.5bn .



Figure 45 Incremental contribution to net income from the upcoming projects based on our estimate

Timeline	Ownership	Name	Gross refining capacity (mmbpd)	Revenue (US\$bn)	Cost (US\$bn)	Royalty (US\$bn)	Other costs (US\$bn)	Profit before tax (US\$bn)	Tax (US\$bn)	Profit after tax (US\$bn)
H2 2020	100%	Jazan integrated plant	0.40	10.51	0.41	1.36	1.05	7.69	3.41	4.29
H2 2020	50%	Prefchem	0.30	3.94	3.39	0.00	0.39	0.15	0.03	0.12
H2 2020	100%	Upstream sales to Prefchem	0.15	3.39	0.15	0.51	0.34	2.39	1.20	1.20
H1 2020	17%	Hyundai oil*	0.65							0.20
2023	100%	Marjan gas project	0.46	1.34	0.47	0.00	0.13	0.74	0.15	0.59
2020	100%	Fadhili gas project	0.46	1.34	0.47	0.00	0.13	0.74	0.15	0.59
2021	100%	Haradh gas project	0.20	0.58	0.20	0.00	0.06	0.32	0.06	0.26
2020	62.5%	SATORP	0.04	0.66	0.57	0.00	0.07	0.03	0.01	0.02
2020	62.5%	YASREF	0.03	0.49	0.42	0.00	0.05	0.02	0.00	0.02
2020	100%	Upstream sales to SATORP/YASREF	0.07	1.58	0.07	0.24	0.16	1.12	0.56	0.56
3Q 2019	100%	Increased ownership at SASREF	0.31	0.56	0.00	0.00	0.06	0.50	0.24	0.26
2023	100%	Crude capacity at Marjan	0.30	6.79	0.31	1.02	0.68	4.79	2.39	2.39
2023	100%	Crude capacity at Berri	0.25	5.66	0.26	0.85	0.57	3.99	1.99	1.99
Total										12.49

Source: Al Rajhi Capital. * post acquisition; Gas production shown in boe/day. Note: Incremental contribution does not include Aramco's proposed deal of 20% stake in Reliance Industries Ltd and Motiva's recent agreement to acquire 100% ownership interest in Flint Hills Resources Port Arthur, LLC.

Chemicals

The company's chemicals business represents an extension of the hydrocarbon value chain and strategically complements the company's refining operations. The company's growing operations in chemicals include participation in high-growth chemical markets with demand from industries such as packaging, automotive, and appliances.

The chemicals business had increased its net chemical production capacity to 16.8mn tons per year in 2018. The company expects the Jazan integrated petrochemical refinery and the PRefChem integrated refinery and petrochemicals complex (300,000 barrel per day refinery, an integrated steam cracker with a capacity to produce 1.3mn tons of ethylene with associated petchem products) to commence operations by the end of 2019 and 2020, respectively, which is expected to increase the company's net chemical production capacity to 22.7mn tons per year. Aramco expects to provide a significant portion of PRefChem's crude supply under a long-term supply agreement. In addition, the other recent investment in the refining portfolio also includes a residue upgrading and petrochemicals complex project at S-Oil, which was commissioned in 2018.

As per our rough estimates, chemical demand in terms of oil per day amounts to 0.53mmbpd and is thereby unlikely to materially change the bottom-line for the company post such expansion as well. The capex at Jazan refinery and Prefchem amounts to 20% of the existing capacity, which is another 0.1mmbpd and is not materially significant in our view. Going by the net margins of chemical companies, the contribution is materially insignificant at the bottom-line level too. While the capex for Jazan refinery would be in the balance sheet of Aramco, the expansion at Prefchem would not come in the cash flows for Aramco.



Figure 46 Chemicals production capacity - 2018 (ex-SABIC)

	Gross Capacity (^{'000} tons)	Ownership	Net capacity (^{'000} tons)
Commodity petrochemicals			
Ethylene	4,299	44%	1,912
Ethylene - Jazan*	-	100%	-
Ethylene - PRefChem*	-	50%	-
Propylene	3,957	50%	1,970
Butadiene	168	25%	42
Paraxylene	4,700	48%	2,275
Benzene	2,376	47%	1,122
Other aromatics	2,533	48%	1,219
Principal polyolefins			
Polyethylene	2,985	44%	1,309
Polypropylene	1,773	38%	681
Synthetic rubber and elastomers			
Synthetic rubber and elastomers	2,039	94%	1,915
Other chemicals (including polyurethanes):			
Intermediates	1,491	51%	765
Derivatives	6,882	51%	3,477

Source: Aramco prospectus, Al Rajhi Capital. * These plants are expected to start production in 2019-20 so we did not consider it.

Expected Purchase of Equity Interest in SABIC

On March 27, 2019, Aramco entered into a purchase agreement with the PIF to acquire PIF's 70% equity interest in SABIC for a total consideration of \$69.1bn. Based on the amended purchase agreement between the Company and SABIC, the purchase price will be paid in the form of cash payment equal to 36% of purchase price and 64% in the form of seller loan (through six separate promissory notes in favor of PIF). Following the proposed acquisition, SABIC will remain a listed company on Tadawul. The transaction is subject to customary closing conditions and is expected to complete in the first half of 2020.

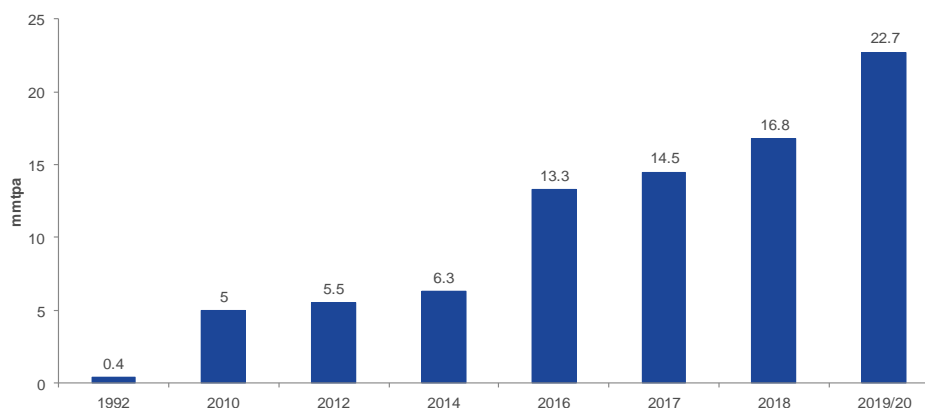
SABIC operates in over 50 countries and produces ethylene, ethylene glycol, methanol, MTBE, polyethylene, and engineering plastics and their derivatives, among other products. Therefore, this deal is a major step to increase the proportion of petrochemicals production and to accelerate Aramco's downstream growth. This deal will further lock the company's future revenues and help it to reduce the volatility in the top-line. We believe the full-year impact of this deal on Aramco would be around US\$7.4bn.

Reliance Industries – a large overseas bet

In August 2019, Saudi Aramco inked a non-binding agreement to acquire 20% stake in Reliance Industries' oil and chemical business for US\$15bn. This deal would be one of Aramco's largest investments overseas and will provide a stake in the world's largest refining complex located in Jamnagar, India. As per the deal, the company agreed to sell 500mbpd to Reliance. This deal would also help the company to match its crude production with refining capacity, which is in-line with its strategy to double the processing capacity to as much as 10mmbpd by 2030. The deal is expected to close by March 2020 and is subject to due diligence and, regulatory and other approvals. We note that in recent years, company has increased its investments in Asian refineries to diversify its operations, which will lock its future revenue and thereby will bring sustainability to the top line.



Figure 47 Equity Chemical Capacity to increase in 2019/20



Source: Company data, Al Rajhi Capital. * Excluding SABIC and Reliance deals

Lubricant Base Oil Products

Three of the company's downstream facilities, Luberef, Motiva, and S-Oil, are major producers of Group I, Group II, and Group III base oils. In 2018, the company sold 4.1mn tons of base oils. The company has an interchangeable Group II global slate incorporating Luberef, S-Oil, and Motiva base oil production through two technical programs covering API and ACEA certification requirements. This allows customers to source base oils, meeting their existing specifications for finished lubricants from any one of the company's lubricant base oil facilities.

Power

As at December 31, 2018, the company's power business comprised 16 captive power plants and associated transmission and distribution assets located in the Northern, Central, Western, and Southern areas of the Kingdom. These assets are primarily designed to provide electricity and steam to the company's upstream oil and gas production facilities, gas processing plants, and wholly owned downstream refineries in a safe, reliable, and profitable manner. Certain of these power assets are wholly owned by the company and some are owned by joint ventures in which the company has an ownership interest. The company also enters into off-take arrangements with independent power producers. In addition, the company currently owns a 6.9% stake in the Saudi Electricity Company, the Kingdom's national electricity utility company, and a 24.81% stake in Marafiq, a domestic utility company that serves the industrial areas of Jubail and Yanbu'.

Figure 48 Power generation capacity – as of 2018

Power Supply Model	Total Capacity	Ownership Interest	Offtake Entitlement / Contractual Obligation
Wholly Owned by the Company	4,014 megawatts	100%	N/A
Joint Ventures	885 megawatts	50%*	885 megawatts
Owned by Third Party Power Producers	1,643 megawatts	0%**	1,643 megawatts

Source: Company Data, Al Rajhi Capital. *The power plant will be transferred to the Company in 2037 pursuant to an agreement among the joint venture partners for no further consideration. **The power plant will be transferred to the Company in 2026 pursuant to an agreement among the joint venture partners for no further consideration.

In 2018, the company generated 4,757 megawatts of power, of which 2,470 megawatts of wheeled power and 1,267 megawatts of spill power were transferred to the national grid. The company has made recent investments through a joint venture arrangement with Power Cogeneration Plant Company (PCPC), which brought online a total of 885 megawatts of capacity to generation facilities at Abqaiq, Hawiyah, and Ras Tanura.



Share of Results from Joint Ventures and Associates

The company had a loss of SAR1,415mn (\$377mn) and SAR956mn in its share results from joint ventures and associates for 2018 and 2017, respectively. The increase in loss was primarily due to lower earnings from FREP, partially offset by improved financial performance at Sadara and Petro Rabigh.

The loss in the company's share of results from joint ventures and associates was SAR956mn and SAR979mn for 2017 and 2016, respectively. The decrease in loss was primarily due to improved financial performance at Sadara and Petro Rabigh, partially offset by lower earnings from Bahri, and Motiva no longer being accounted using the equity method as in prior periods.

Figure 49 Share of results from JVs and associates

Company	Equity ownership 2016 / 2017 / 2018	Principal place of business	Nature of activities	Net income (100% basis) (US\$bn)		
				2016	2017	2018
Sadara	65%	Saudi Arabia	Petrochemical	(1.5)	(1.3)	(1.1)
Petro Rabigh	37.50%	Saudi Arabia	Refining / Petrochemical	0.0	0.2	0.3
FREP	25%	China	Refining / Petrochemical	0.7	0.8	0.4
Arlanxeo	50% / 50% / 100%	Netherlands	Synthetic rubber	(0.1)	0.0	0.0
Others				1.6	0.7	0.4
Total (100% basis)				0.8	0.5	(0.0)
Total (Group share)				(0.3)	(0.3)	(0.1)

Source: Company Data, Al Rajhi Capital



Accounting of companies not consolidated

While the upstream and most of the downstream assets are consolidated, the below figures show the major companies that are accounted for as equity investments.

Figure 50 Summarized Statement of Comprehensive Income of JVs and associates

SARmn	Sadara	Petro Rabigh	FREP	Other	Total
Revenue	13,114	42,165	29,760	34,725	119,764
Depreciation and Amortization	3,848	2,445	1,373	2,254	9,920
Conventional Interest Income	-	296	90	60	446
Interest Expense	2,258	728	368	626	3,980
Income Tax Expense	49	128	638	285	1,100
Net (Loss) Income	(4,009)	1,301	1,609	1,028	(71)
Other Comprehensive Income (Loss)	94	(15)	(495)	(86)	(502)
Total Comprehensive Income (Loss)	(3,915)	1,286	1,114	942	(573)

Source: Company Data, Al Rajhi Capital * Aramco acquired the remaining 50% of equity interest in Arlanxeo on Dec 31, 2018. So this company is not more accounted as equity investment as Aramco' stake has increased to 100%.

Figure 51 Summarized Balance Sheet of JVs and associates – 2018

SARmn	Sadara	Petro Rabigh	FREP	Other	Total
Current Assets:					
Cash and Cash Equivalent	1,384	3,184	4,035	4,189	12,792
Other	7,931	15,904	5,104	6,503	35,442
Total Current Assets	9,315	19,088	9,139	10,692	48,234
Non-Current Assets	72,422	52,178	10,851	42,019	177,470
Current Liabilities:					
Financial Liabilities (excluding trade and other payables)	3,525	13,898	656	2,891	20,970
Other	6,105	14,273	2,700	5,850	28,928
Total Current Liabilities	9,630	28,171	3,356	8,741	49,898
Non-Current Liabilities:					
Financial Liabilities (excluding trade and other payables)	48,634	33,641	6,806	21,075	110,156
Other	5,280	488	154	1,316	7,238
Total Non-Current Liabilities	53,914	34,129	6,960	22,391	117,394
Net Assets	18,193	8,966	9,674	21,579	58,412
Saudi Aramco Interest	65%	38%	25%	20% - 50.1%	
Saudi Aramco Share	11,825	3,362	2,419	5,363	22,969
Elimination of Profit in Inventory	11	(388)	-	(2)	(379)
Fair Value and Other Adjustments	(176)	(211)	-	376	(11)
Investment Balance, December 31	11,660	2,763	2,419	5,737	22,579

Source: Company Data, Al Rajhi Capital. * Aramco acquired the remaining 50% of equity interest in Arlanxeo on Dec 31, 2018. So this company is not more accounted as equity investment as Aramco' stake has increased to 100%.



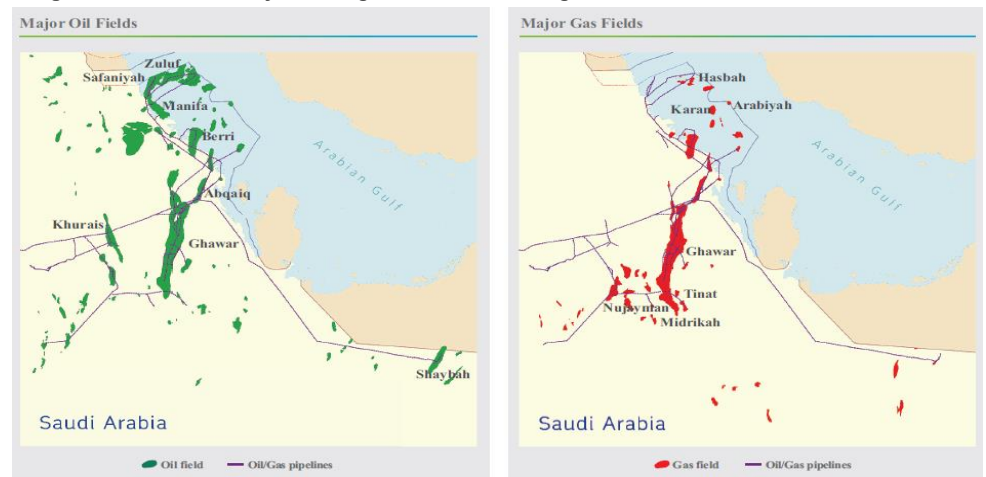
High reserves provide long-term visibility

Exclusive concession agreement with the government

As per the concession agreement signed on December 24, 2017, Saudi Aramco has exclusive rights to explore, develop, drill, recover, and distribute hydrocarbons within Saudi Arabia except limited exceptions for the next 60 years (40 years of initial period and 20 years of potential extension subject to some conditions). Absent a change in Law, which can be enacted unilaterally by the government in accordance with the Kingdom's Basic Law of Governance, the Concession Agreement cannot be amended, modified, waived, discharged, or terminated except by mutual written consent by the company and the Ministry of Energy.

As of Dec 2018, the oil-giant's reserves portfolio includes 498 reservoirs within 136 allocated fields with majority of its reservoirs located in the Eastern Province of the Kingdom and nearby Arabian Gulf.

Figure 52 Aramco's key oil and gas fields in the Kingdom



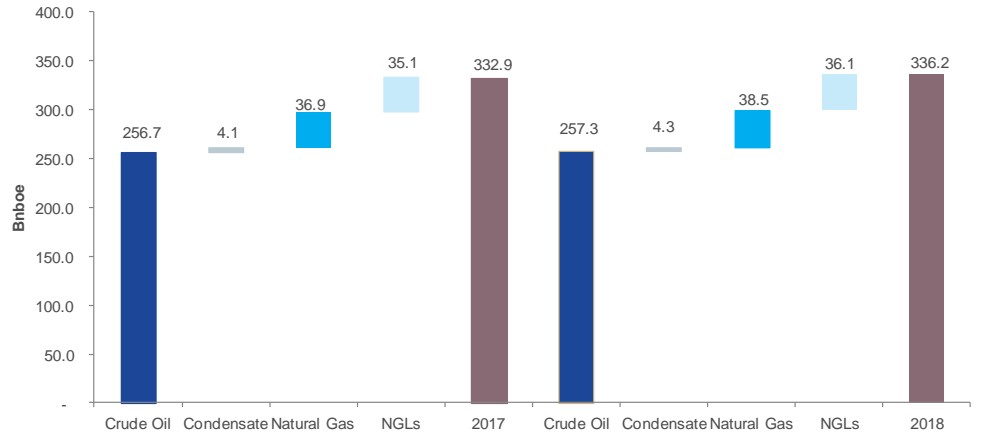
Source: Aramco prospectus, Al Rajhi Capital

Profile of leading reserves in the industry

As of Dec 2018, Aramco had 256.9bnboe of total proved reserves, implying a reserve life of 52 years, significantly higher than the average reserve life of 9–15 years of top five major international oil companies (IOCs). Of total proved reserves, oil reserves including condensate accounted 78.4% (201.4bnbbl), while gas and NGL reserves contributed 13.4% (185.7tcf) and 9.9% (25.4bnbbl), respectively. Aramco's reported proved reserves were also verified by the independent petroleum consultant, DeGolyer & MacNaughton, who estimated the liquid reserves at 191bnbbl (vs. Aramco's estimated 192bnbbl) and total recovery at 209bnboe (Aramco's 209bnboe), confirming the accuracy of its reserve base. In addition, Saudi Aramco efficiently replaced the Kingdom's reserves in a low-cost manner with an organic reserves replacement ratio of 154% in 2018, better than 127% in 2017 and 95% in 2016.

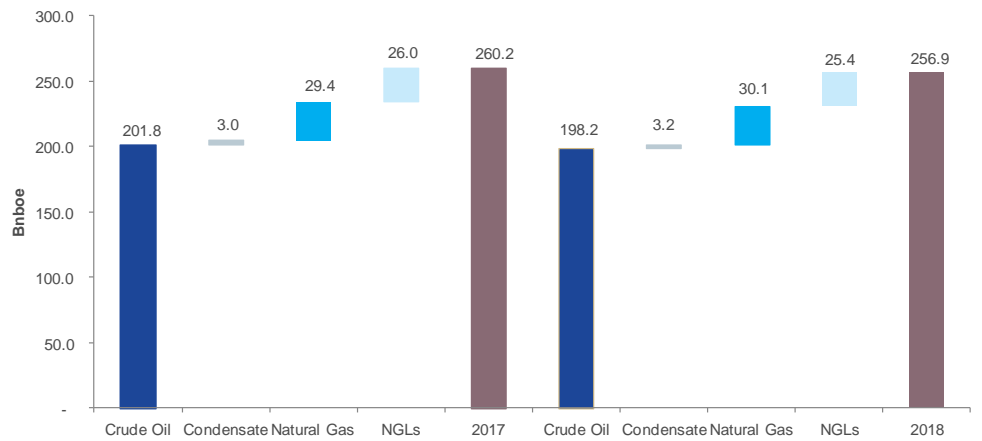


Figure 53 Saudi Aramco Stewardship of Kingdom reserves (2017-18)



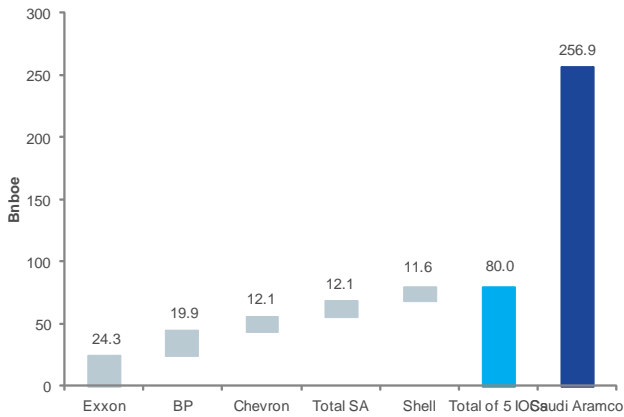
Source: Company Data, Al Rajhi Capital

Figure 54 Material scale company reserve position under concession (2017-18)



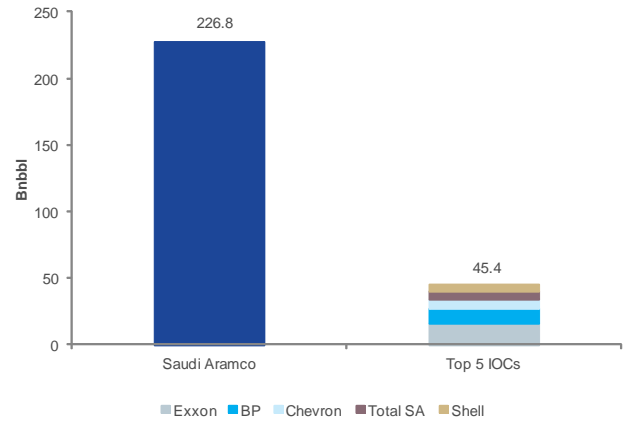
Source: Company Data, Al Rajhi Capital

Figure 55 Material scale company reserve position under concession (2017-18)



Source: Company Data, Al Rajhi Capital

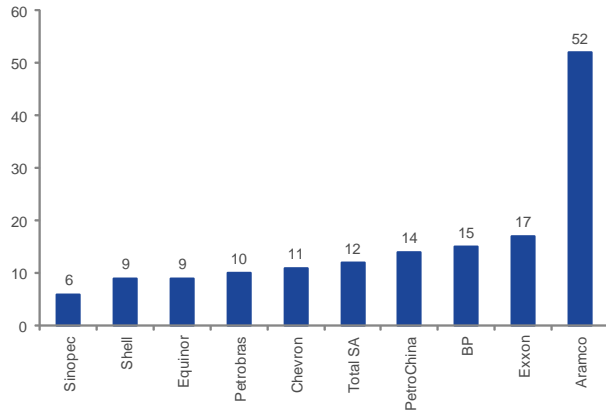
Figure 56 Proved liquid reserves comparison



Source: Company Data, Al Rajhi Capital

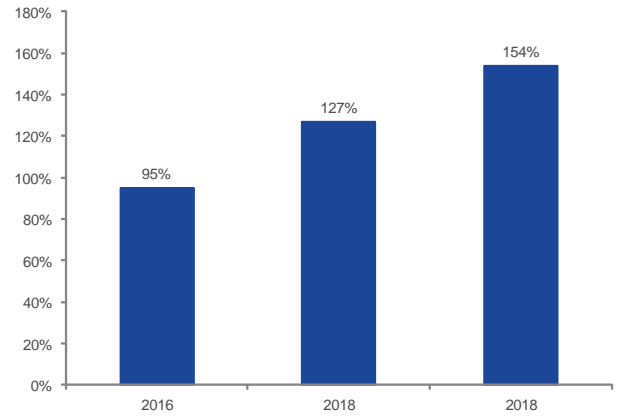


Figure 57 2018 Oil & Gas Company reserve life (in year)



Source: Company Data, Al Rajhi Capital

Figure 58 Organic Crude and Condensate reserves replacement ratio

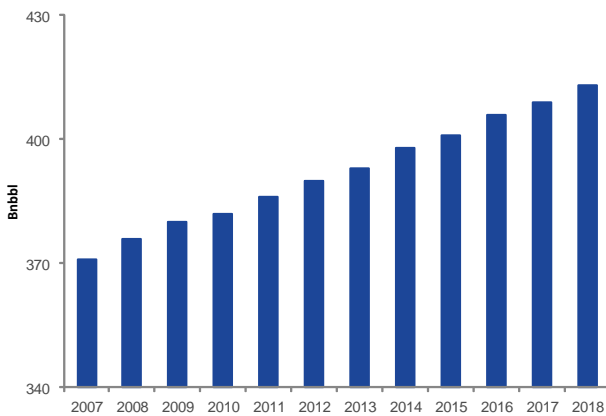


Source: Company Data, Al Rajhi Capital

Significant scale of reserve addition

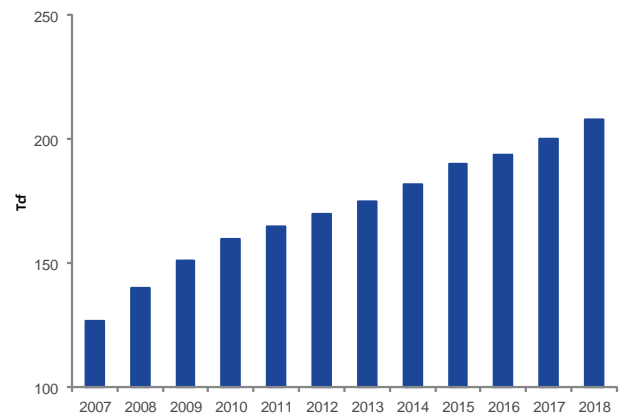
The Kingdom has a proven long track record of adding additional original reserves with 42bnbbl (11% growth) of crude and condensate reserves and 81Tcf of gas reserves (64% growth) since 2007. In fact, over 2016-18, the Kingdom's total reserve base grew 20bnboe, which was equal or higher than most of top five IOCs' reserve as of Dec 2018.

Figure 59 Crude and condensate original reserve growth*



Source: Company Data, Al Rajhi Capital. * Based on Kingdom's reserves

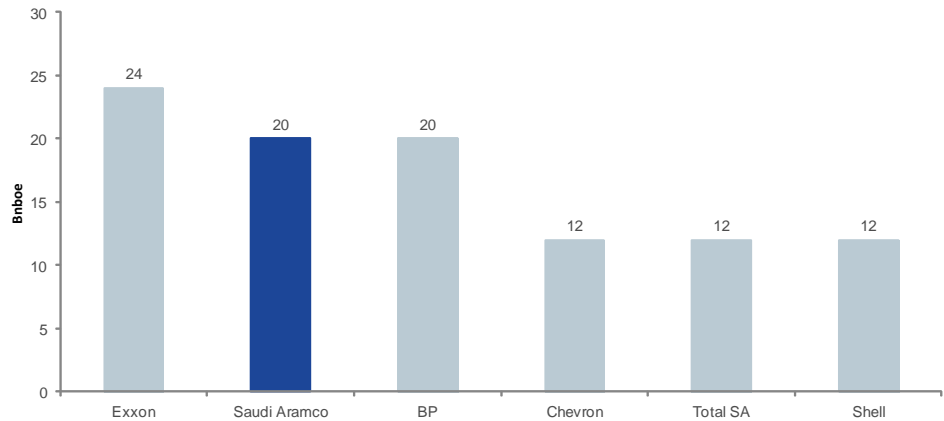
Figure 60 Non-associated raw gas original reserves growth*



Source: Company Data, Al Rajhi Capital. * Based on Kingdom's reserves



Figure 61 2016-18 Kingdom reserves additions vs. IOCs Total 2018 Reserves

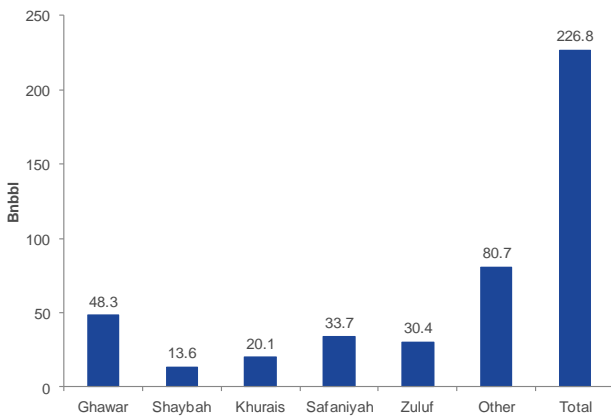


Source: Company Data, Al Rajhi Capital

Principal oil fields

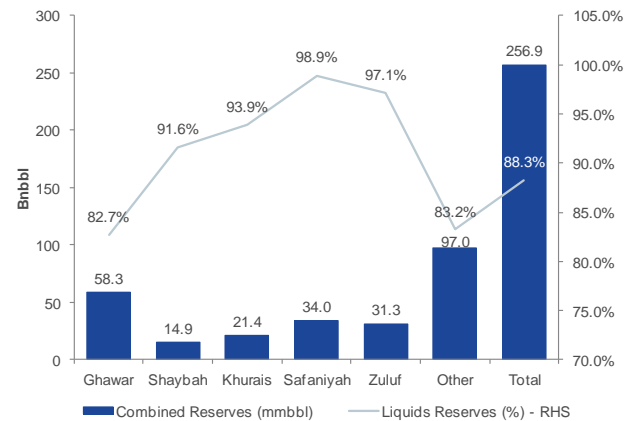
The company's Ghawar field is the world's largest oil field, with the proved reserves of 58.3bnbbl (82.7% liquids; source: company data). This is followed by Safaniyah field (34.0bnbbl; 98.9% liquids) and Zuluf (31.3bnbbl; 97.1% liquids). Aramco's main oil fields are well connected through a network of integrated facilities, enabling the company to transport crude to multiple processing plants in the Kingdom.

Figure 62 Liquids Reserves (mmbbl)



Source: Company data, Al Rajhi Capital

Figure 63 Principal Oil Fields



Source: Company data, Al Rajhi Capital

Principal gas fields

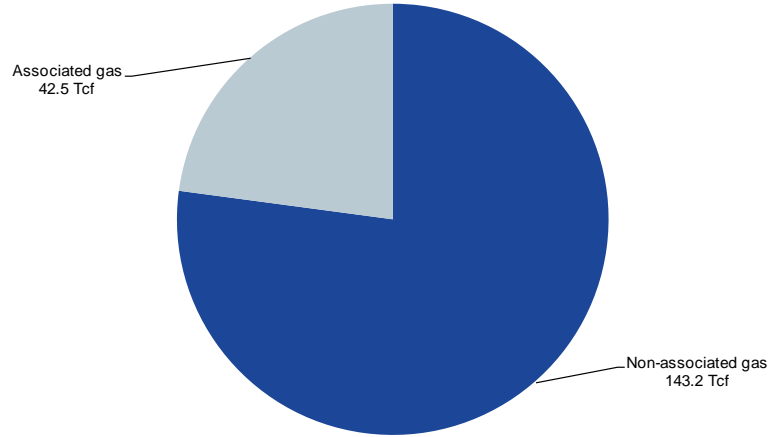
Saudi Aramco's crude oil output also contains a liquid rich associated gas, which is scaled to meet the increased local demand for gas. Below are the company's key associated and non-associated gas fields.

Associated gas: Aramco's key associated gas fields are Ghawar, Khurais, Safaniyah, Zuluf and Marjan. Of out these fields, Ghawar is the company's largest producing field of associated gas.

Non-associated gas: The company's major non-associated gas fields are located in the northern and southern (the greater Ghawar area) parts of the Kingdom. The gas fields in the northern area include Karan (first non-associated offshore gas field, which was discovered in 2006), Arabiyah and Hasbah.



Figure 64 Aramco's natural gas reserves - 2018

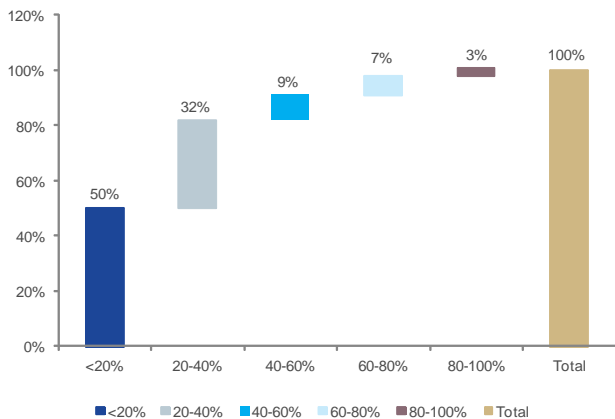


Source: Company data, Al Rajhi Capital

Reserve quality yields higher recovery rates

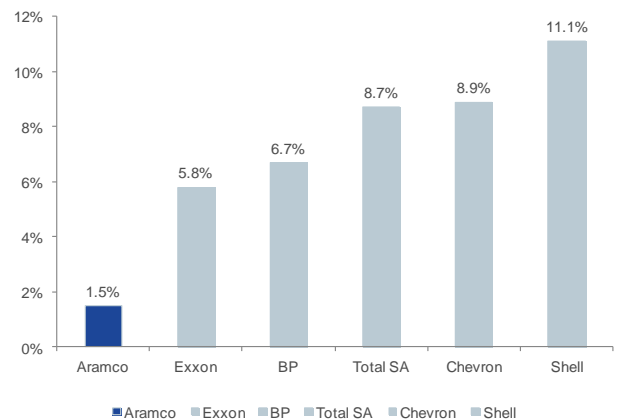
The company's majority of oil fields have been producing for many decades with just 1-2% depletion rate (source: company data). Based on the Kingdom's reserves, the company's depletion rate was ~1.5% as of 2018, which was significantly lower as compared to global peers (Exxon Mobil: ~5.8% depletion rate), primarily due to its large scale of reserve base. This reflects that Aramco possesses high reservoir reserve quality, leading to high recovery rates. This, combined with low water cut, ensures lower operating costs for the company. Furthermore, as of 2018, around 80% of the Kingdom's proved crude reserve base has depleted less than 40% and has a recovery probability of 41-80%, due to high reservoir quality. This allows big fields to get bigger. For example, Abqaiq's original reserves increased over 13.5x since its first production. Also the company is the only one to have sustainable production of 5 different grades of crude with the additional ability to adapt production dynamically to maximize value.

Figure 65 Depletion stage of the Kingdom's crude oil reservoirs



Source: Company Data, Al Rajhi Capital. As of 2018

Figure 66 Low annual depletion rate



Source: Company Data, Al Rajhi Capital. As of 2018

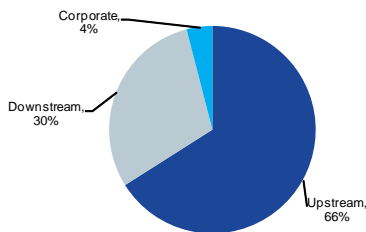


Capex

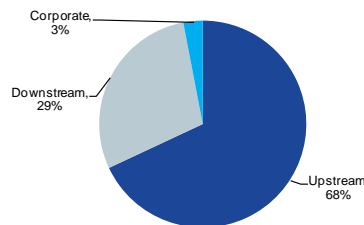
Upstream capex accounts for the largest share in total capex

Saudi Aramco continued to increase its capital spending over the past few years, given a healthy recovery in oil prices. Over 2016-18, the total capital expenditure incurred by the company grew at a CAGR of 12.8%, driven by increased spending for its upstream capex (+18.6% CAGR), further supported by downstream capex (+2.9% CAGR). While the increase in upstream capex was mainly attributable to the expansion of the Haradh gas facility and the construction of the Fadhili gas plant, higher downstream capex was driven by ongoing construction of Jazan integrated petrochemical refinery, coupled with its investments for an integrated refinery in its PrefChem JV. In 2018, upstream capex accounted for 73% (66% in 2016) of the total spending, while downstream capex contributed 25% of the total, down from 30% in 2016. In terms of capex by type, the company spent ~US\$22bn (~63% of total spending) for growth and the remaining US\$13bn for maintenance of its existing infrastructure.

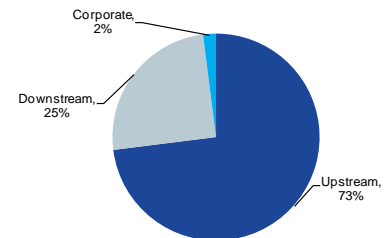
Figure 67 Aramco capex by segment - 2016 **Figure 68 Aramco capex by segment - 2017** **Figure 69 Aramco capex by segment - 2018**



Source: Company Data, Al Rajhi Capital



Source: Company Data, Al Rajhi Capital

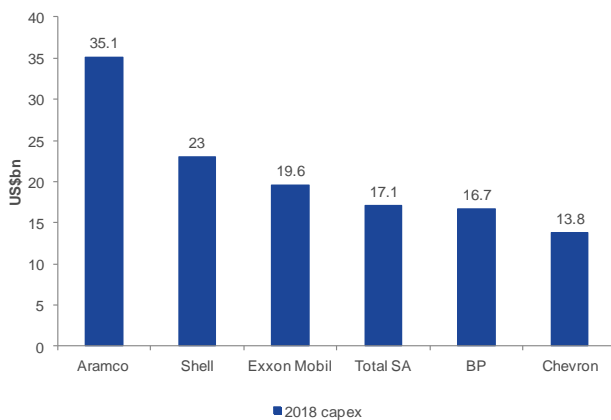


Source: Company Data, Al Rajhi Capital

Industry-leading capex profile

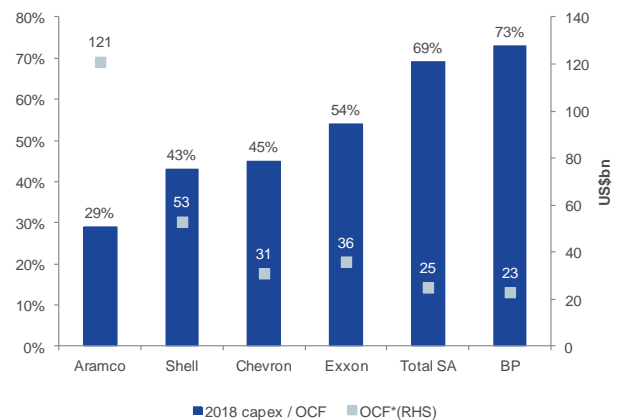
Saudi Aramco's low cost positions amid large infrastructure and high cash-flow-generating ability enable it to continue to spend on growth, irrespective of oil prices. The company's 2018 capex of US\$35.1bn was almost more than ~1.5x of Shell's capex (US\$23bn) and ~1.8x of Exxon's capex (US\$19.6bn). Furthermore, the company has the lowest capex/operating cash flow ratio (29% in 2018 vs. the range of 43–73% of top 5 IOCs) in the industry, reflecting its strong capital efficiency and free cash flow generation ability.

Figure 70 Aramco's capex spending ability vs. major peers



Source: Company Data, Al Rajhi Capital

Figure 71 Aramco's capex/OCF* vs. major peers



Source: Company Data, Al Rajhi Capital. *Operating cash flow

Organic capex guidance

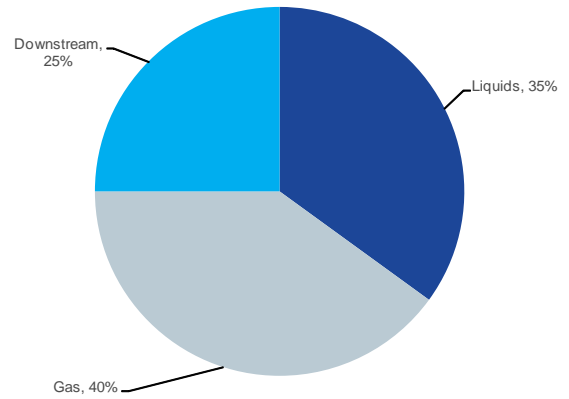
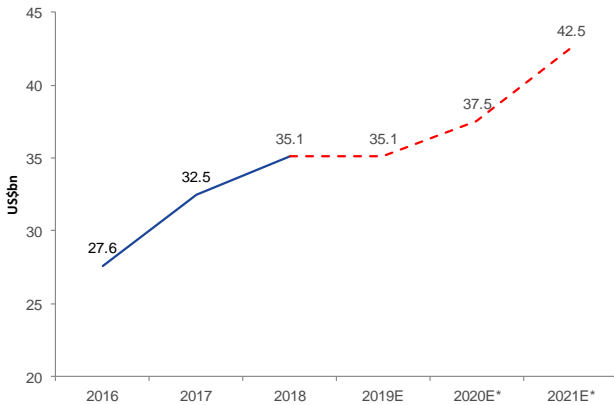
Saudi Aramco plans to increase its organic capital spending in the coming years with 2021 capex guided at US\$40–45bn (including SABIC post expected completion of acquisition), higher than the 2018 level of ~US\$35bn. However, in case of any unexpected fall in oil prices,



the company has a flexibility to control its capex. In terms of capex allocation, Saudi Aramco has allocated 75% of total capital budget to the upstream segment (35% liquids and 40% gas), and the rest to the downstream segment (for the medium term).

Figure 72 Aramco's medium term capex guidance (at mid-point)

Figure 73 Medium term capex split



Source: Company Data, Al Rajhi Capital. * Including SABIC from H2 2020

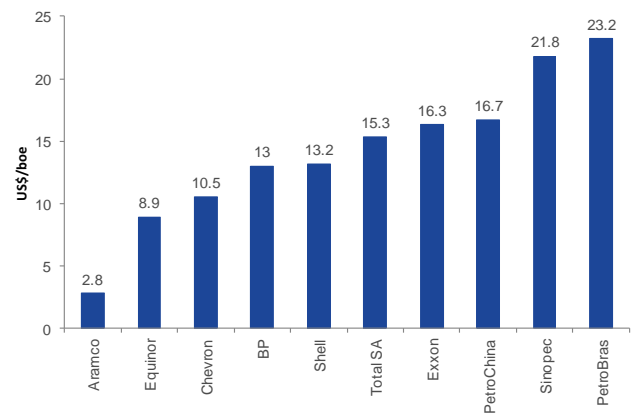
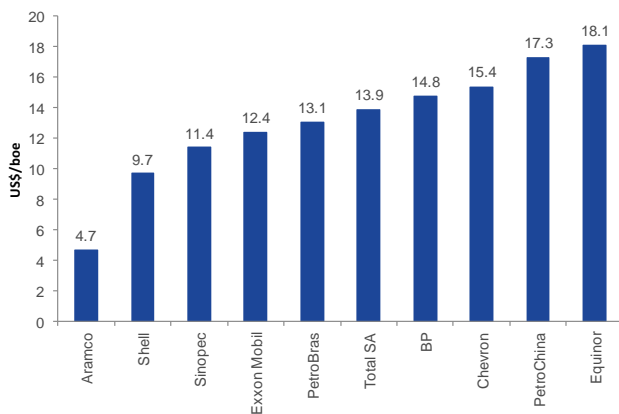
Source: Company Data, Al Rajhi Capital

Lowest upstream lifting and capex per BOE in the industry

The company's upstream uplifting and capex costs per BOE are among the lowest on the planet, due to the unique nature of Kingdom's geological formations along with favorable onshore and offshore environments, and available synergies from large infrastructure and logistics networks. In 2018, the company's upstream cost per BOE stood at US\$7.6 (US\$2.8/BOE lifting cost and US\$4.7/BOE capex costs), significantly lower than its peers (e.g., US\$28.7/BOE for Exxon). This enables the company to generate material cash flow from operations primarily during periods of relatively high crude oil prices, while maintaining positive cash flow from operations during periods of relatively low crude oil prices.

Figure 74 Aramco's upstream capex vs. peers – 2018

Figure 75 Aramco's upstream lifting costs vs. peers – 2018



Source: Company Data, Al Rajhi Capital

Source: Company Data, Al Rajhi Capital



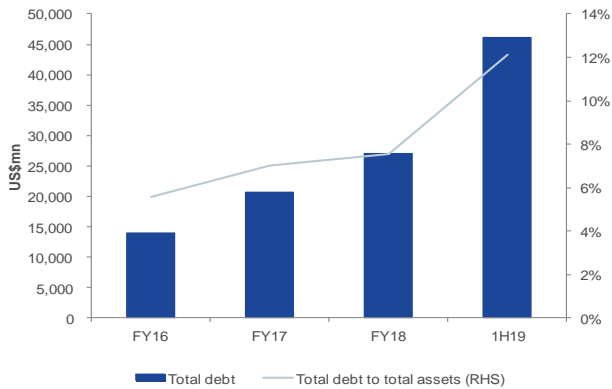
Balance sheet analysis

Saudi Aramco has a sound and flexible balance sheet with a net cash position (cash and cash equivalents including short-term investments accounted for 14% of total assets as of H1 2019) and total debt (long term + short-term) to total equity of ~17%. The company has followed a comprehensive and disciplined approach in allocating capital efficiently while maintaining a healthy and robust balance sheet.

Lowest debt to assets among peers

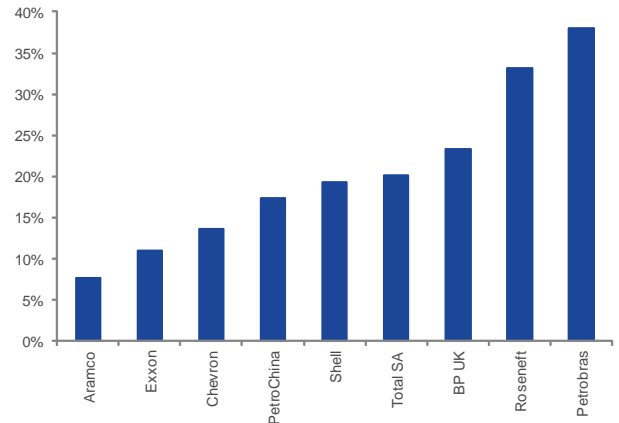
Saudi Aramco historically maintained a low financial leverage with total debt to total assets of 7.5% in 2018, far below its peers' average of ~21%. Post bond issuance in 2019, Aramco's total debt grew ~71% to US\$46bn in H1 2019 from US\$27bn in 2018. Consequently, the company's total debt to total assets ratio increased to ~12%, although still below its peers' average. This, along with a healthy credit rating, provides further headroom for the company to raise additional debt to fund its future growth capex, if required.

Figure 76 Healthy total debt to total assets ratio



Source: Company Data, Al Rajhi Capital

Figure 77 Lowest total debt to total assets among peers - 2018

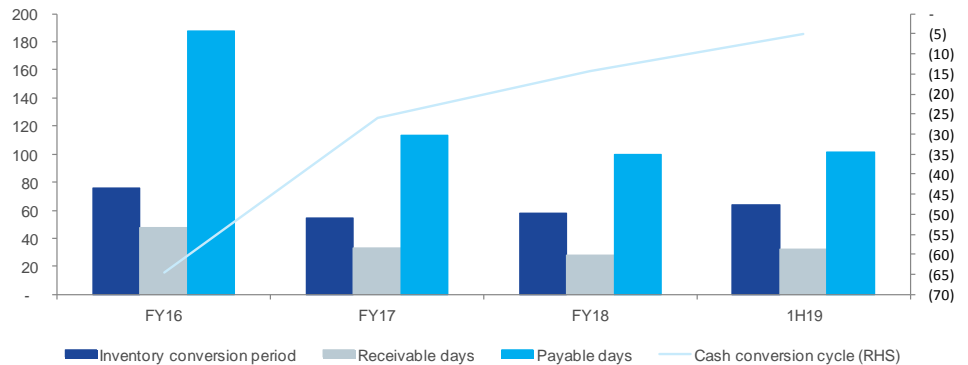


Source: Company Data, Bloomberg, Al Rajhi Capital

Negative cash conversion cycle (CCC)

During the past three financial years, the company's cash conversion cycle was negative, which continued to remain the same during H1 2019. This was mainly because of its large scale of operations including upstream and downstream, which have increased its purchasing power in the market. However, the increase in the cash conversion days in H1 2019 (Figure 78) was primarily due to decrease in payable days since 2016.

Figure 78 Cash conversion cycle



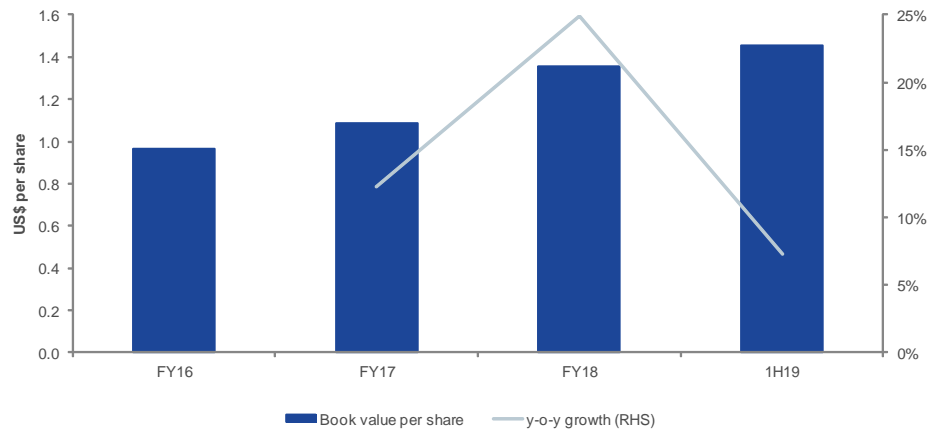
Source: Company Data, Al Rajhi Capital



Improving book value per share

The company's book value per share has been consistently growing over the past three years, as evidenced from the figure below. This was primarily due to double-digit growth in retained earnings aided by higher net income.

Figure 79 Aramco's book value per share

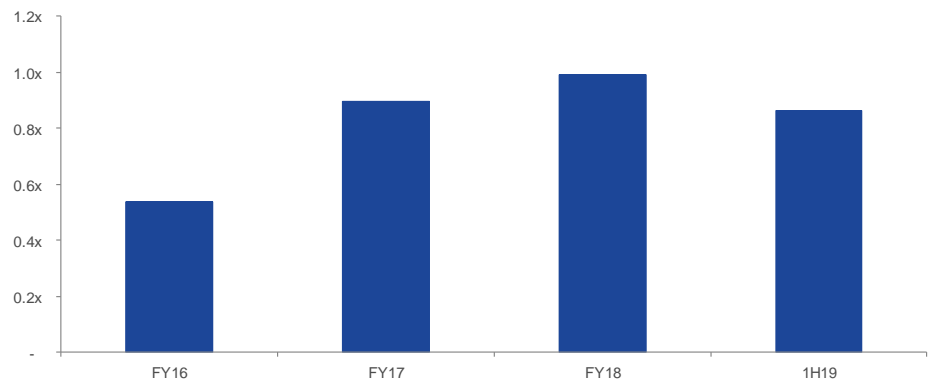


Source: Company Data, Al Rajhi Capital

Strong asset quality

The company is utilizing its assets well with the asset turnover ratio improving to ~1.0x in 2018 from 0.5x in 2016. This improvement was majorly on account of 96% and 35% revenue growth (including other income related to sales) in 2017 and 2018. However, we observed a slight decline in H1 2019, which was largely due to the decrease in revenue due to lower production.

Figure 80 Asset turnover ratio



Source: Company Data, Al Rajhi Capital

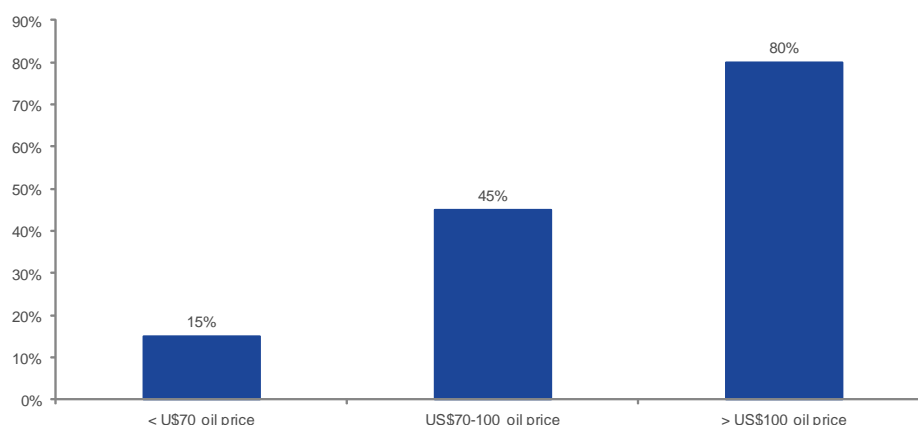


Royalty and other financial notes

Royalty on oil

With respect to the company's production of crude oil and condensates, including those used by the company in its operations, royalties are calculated based on a progressive scheme applied to crude oil and condensate production value. Production will be valued based on the company's official selling prices. An effective royalty rate will be applied to the production value and will be based each month on the average daily price quotes for Brent crude for each day during such a period. The effective royalty rate was determined based on a baseline marginal rate of 20% applied to the value of production at prices up to \$70 per barrel, a marginal rate of 40% applied to the value of production at prices above \$70 per barrel up to \$100 per barrel and a marginal rate of 50% applied to the value of production at prices above \$100 per barrel. However, post 2019, this has been modified as follows:

Figure 81 New royalty structure - effective from Jan 2020



Source: Company Data, Al Rajhi Capital

Royalty on Gas

With respect to the company's production of natural gas, ethane, and NGLs, excluding those volumes used by the company for upstream operations and related operations (including transportation, pipelines, storage and export facilities, fractionation plants, gas and NGLs plants), royalties are calculated based on a flat royalty rate of 12.5% applied to a factor established by Ministry of Energy, Industry and Mineral Resources (MEIM). The factor to which this royalty is applied is US\$0.035 per mMBTU for NGLs (propane, butane, and natural gasoline) and US\$0.00 per mMBTU for natural gas (methane) and ethane. This is subject to the amendment by the minister, taking into account the price that achieves the targeted internal rate of return set by the minister in coordination with the company.



Income taxes

Effective January 1, 2017, the income tax rate applicable to Saudi Arabian Oil Company decreased from 85% to 50%. In addition, effective from January 1, 2018, a 20% rate applies to the taxable income related to the exploration and production of non-associated natural gas (including gas condensates) as well as the collection, treatment, processing, and transportation of associated and non-associated natural gas and their liquids, gas condensates, and other associated elements. Furthermore, under the Kingdom's Income Tax Law, Saudi Arabian Oil Company's interests in in-Kingdom subsidiaries are generally subject to a 20% tax rate, unless such a subsidiary is engaged in the production of oil and its associated hydrocarbon products in which case a 50% to 85% multi-tiered structure of income tax rates applies, except that a 20% rate would apply to such subsidiary's taxable income related to certain natural gas activities.

Effective 1 January 2020, the tax rate applicable to the Company's downstream business will be the general corporate tax rate of 20% that applies to all similar domestic downstream companies under the Income Tax Law, rather than the 50% to 85% multi-tiered structure of income tax rates that applies to domestic oil and hydrocarbons production companies in the Kingdom, on the condition that the Company consolidate its downstream business under the control of a separate, wholly owned subsidiary before 31 December 2024. If the Company does not comply in so consolidating its downstream business by 31 December 2024G, the Company's downstream business will be taxed retroactively on an annual basis for such five-year period in accordance with the higher rate applicable to domestic oil and hydrocarbon production companies. In such case, the Company will be required to pay the difference in taxes due to the Government (source: company data).

Selling, Administrative, and General

For the years 2018 and 2017, the company incurred selling, administrative, and general expenses of SAR31.3bn (US\$8.3bn) and SAR29.6bn, respectively. The company incurred selling, administrative and general expenses of SAR29.6bn and SAR37.1bn for 2017 and 2016, respectively. This 20% decrease was primarily due to a decrease in labor costs due to the retirement of certain senior employees and reduction in the number of expatriate employees.

Exploration

For 2018 and 2017, exploration expenses decreased 42% to SAR7.9bn (US\$2.1bn) from SAR13.7bn, respectively. This decrease was primarily due to lower write-offs of dry-hole costs related to gas exploration activities in 2018. For 2017 and 2016, the company incurred exploration expenses of SAR13.7bn and SAR11.1bn, respectively. This 24% increase was primarily attributable to an increase in write-offs of dry-hole costs related to gas exploration activities.

Research and development

For 2018 and 2017, the company incurred research and development expenses of SAR2,217mn (\$591mn) and SAR1,902mn, respectively. For 2017 and 2016, the company incurred research and development expenses of SAR1,902mn and SAR1,897mn, respectively.

Depreciation and amortization

For 2018 and 2017, the company recognized depreciation and amortization expenses of SAR41.3bn (\$11.0bn) and SAR36.9bn, respectively. This 12% increase was primarily attributable to an increase in capitalized costs related to upstream projects that were completed in 2018. For 2017 and 2016, depreciation and amortization expenses increased to SAR36.9bn from SAR33.6bn, respectively. This 10% increase was primarily attributable to the consolidation of Motiva's results of operations into the company's financial statements from May 1, 2017.



Impairments

The company recognized an impairment of SAR13.6bn for the year ended December 31, 2016 primarily due to an assessment that the future recoverable amount of the refinery component of an under-construction petrochemical facility was less than the carrying value of that asset.

Finance and other income

For 2018 and 2017, the company had finance and other income of SAR3,865mn (\$1,030mn) and SAR1,569mn, respectively. This increase was primarily attributable to an increase in interest income generated from time deposits and loans receivable. For 2017 and 2016, the company had finance and other income of SAR1,569mn and SAR1,609mn, respectively.

Finance costs

For 2018 and 2017, the company incurred finance costs of SAR2,959mn (\$789mn) and SAR2,090mn, respectively. This 42% increase was primarily due to the consolidation of Motiva's results of operations into the company's financial statements for the full financial year as well as increased borrowing costs on certain bank borrowings, including additional project finance borrowings. For 2017 and 2016, the company incurred finance costs of SAR2,090mn and SAR1,354mn, respectively. This 54% increase was primarily due to the consolidation of Motiva's results of operations into the company's financial statements from May 1, 2017 as well as finance costs related to the Sukuk Program and increased borrowing costs on bank borrowings by SATORP and YASREF.



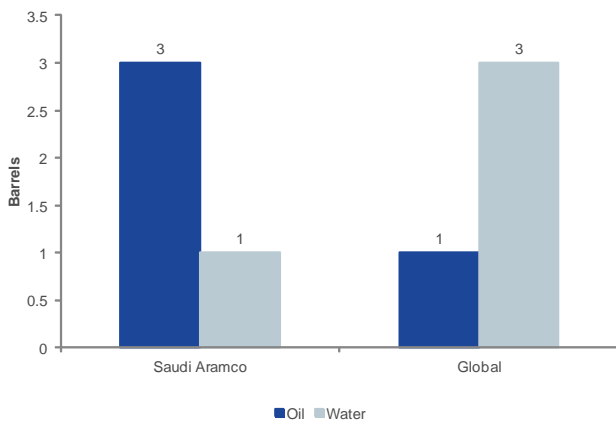
Environmental, Social, and Governance (ESG)

Environmental

In the wake of climate change concerns across the globe, the demand for hydrocarbon and its related products may reduce in future, which have resulted in the formation of laws and regulations, new government policies, and international agreements and treaties with the primary objective to reduce greenhouse gas (GHG) emissions. The two major causes for this anticipated reduction in global demand for hydrocarbon are shift to lower carbon intensity fossil fuels and variety of government actions such as carbon emission cap, carbon taxes, increased efficiency standards, and incentives for alternative energy sources. This might have a material adverse effect on the company's operations and thereby, on its financial condition.

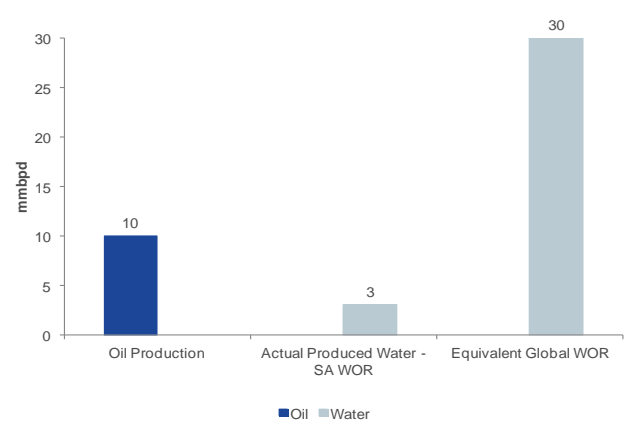
However, the company has followed best practices during extraction. The low per barrel gas flaring rates along with low water production contribute to low upstream carbon intensity (10.2kg CO₂/boe; source: company data) due to less energy used for fluid separation, handling, treatment, and reinjection. This has resulted in a lower water oil ratio (WOR) for the company. Its WOR, per 10 mmbbl/d of oil production, is 3 mmbbl/d of water, which is significantly lower than the global average of 30 mmbbl/d of water (Figures 82 & 83). This also ensures lower operating costs for the company when compared to other major IOCs.

Figure 82 Saudi Aramco WOR Vs global average



Source: Company Data, Al Rajhi Capital

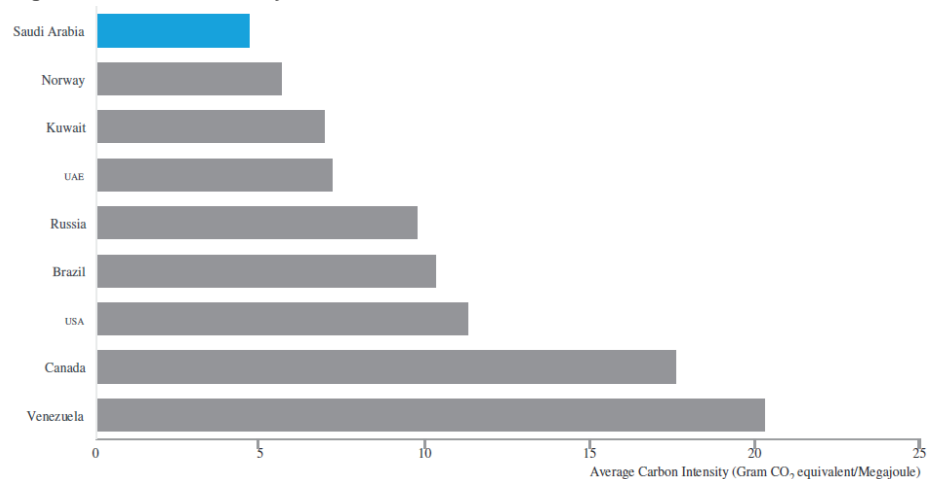
Figure 83 Water production from oil production of 10 mmbpd



Source: Company Data, Al Rajhi Capital

The following chart shows the Kingdom's average carbon intensity compared to other major hydrocarbon-producing countries according to the August 31, 2018 edition of Science Magazine.

Figure 84 Carbon intensity as of 2018



Source: Company Data, Al Rajhi Capital



Social

The company accommodates various corporate social responsibility (CSR) projects and initiatives for the welfare of communities and environment in which it operates. These projects are Aramco's own initiatives as well as government directed. The largest CSR project undertaken by the company was the construction of The King Abdulaziz Center for World Culture (iThra) in Dhahran, which was opened in late 2017. Furthermore, there are many other CSR projects that the company had completed in the past and will continue to do in future in an effort to achieve the Kingdom's strategic, economic, and social goals and thereby support Saudi industries to become competitive at an international level. Meanwhile, the company had adopted a new Corporate Citizenship Policy in 2018 and as per the policy, future projects will be undertaken with a key focus on four target areas, which are (a) community economic growth and development, (b) protection of the natural environment, (c) community economic empowerment, and (d) community-based corporate citizenship initiatives.

Governance

The company has introduced new corporate governance and compliance policies and is laying procedures to monitor sanctions and trade restrictions, and to comply with anti-bribery and corruption practices. The company has further instituted a cyber-security governance management policy to manage and protect technology and other cyber security programs. Under these corporate governance policies, the Board of Directors is responsible for the preparation and presentation of consolidated financial statements in accordance with International Financial Reporting Standards (IFRS) and pronouncements issued by Saudi Organization for Certified Public Accountants (SOCPA).

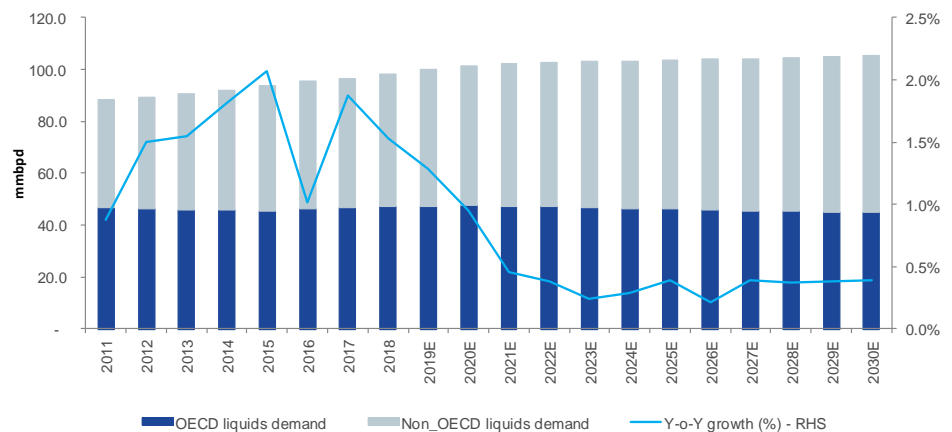


Oil market dynamics

Stable global economic growth continues to aid liquids consumption

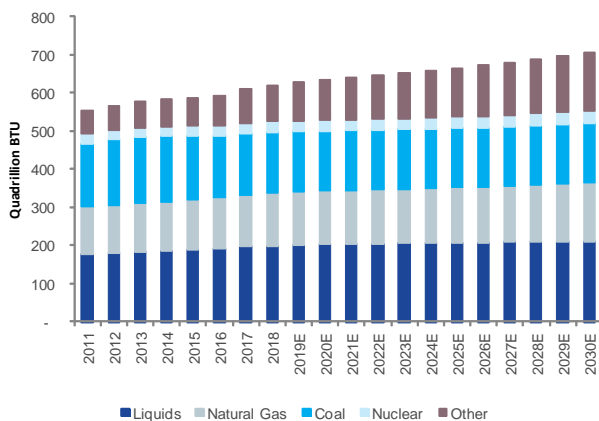
Global liquid consumption is likely to grow at a CAGR of 0.6% (as per EIA forecasts) over 2017–30E, supported with healthy and stable global GDP growth (3.0% on an average during the same period). We believe that the growth in demand is primarily driven by non-OECD Asia Pacific countries, whose economies are expected to grow at a higher CAGR of 5.5% over the same period, backed by higher rising per capita income, population growth, and increased focus toward urbanization. This could also offset the possible lower demand for liquids, particularly for crude caused by higher usage of alternative fuels and introduction of new technologies including electric vehicles. However, with the gradual rise in use of natural gas and alternative fuels, the crude oil share to total energy consumption is likely to decline to 29.9% by 2030E, compared to 32.2% in 2017, although it will still remain the primary energy source in future.

Figure 85 World liquid consumption



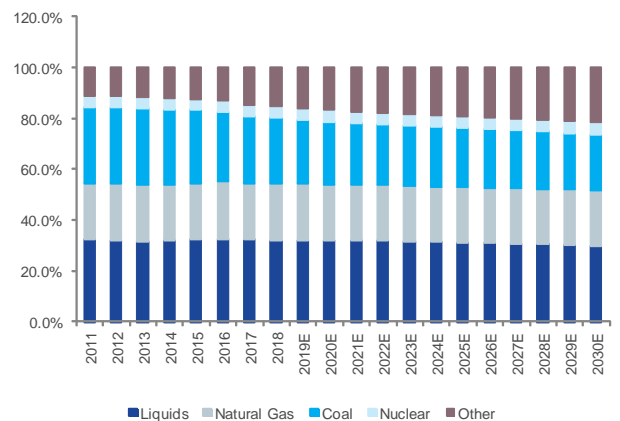
Source: EIA, Al Rajhi Capital

Figure 86 World total energy consumption by fuel



Source: EIA, Al Rajhi Capital

Figure 87 World total energy consumption share by fuel

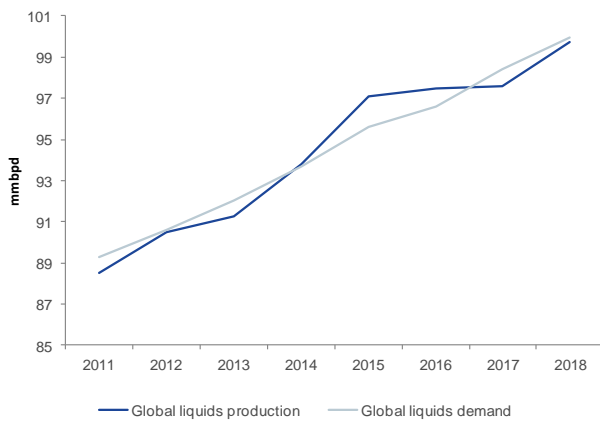


Source: EIA, Al Rajhi Capital



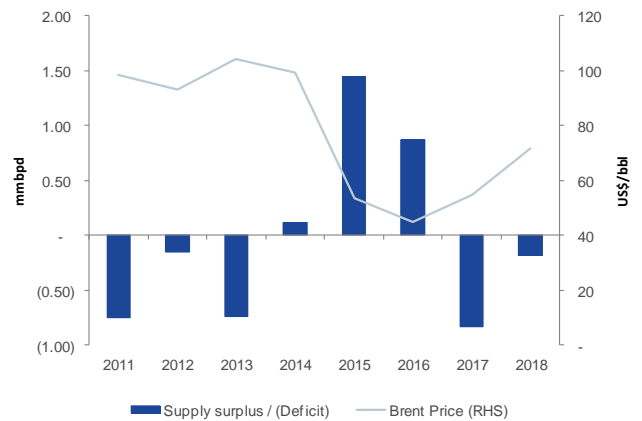
Liquid demand–supply balance. After the oil market witnessed an excess supply scenario over 2014–16 which triggered the production cut mainly by the OPEC cartel and thereby lowered crude oil prices, the market reached an equilibrium in 2017 and 2018, mainly due to the pick-up in demand amid improved economic activity and slowdown in supply growth. As per EIA, the oil market is likely to remain balance till 2022, aided by healthy demand growth over the medium term, ensuring firm crude oil prices in the coming years.

Figure 88 World liquid supply-demand trend



Source: EIA, Al Rajhi Capital

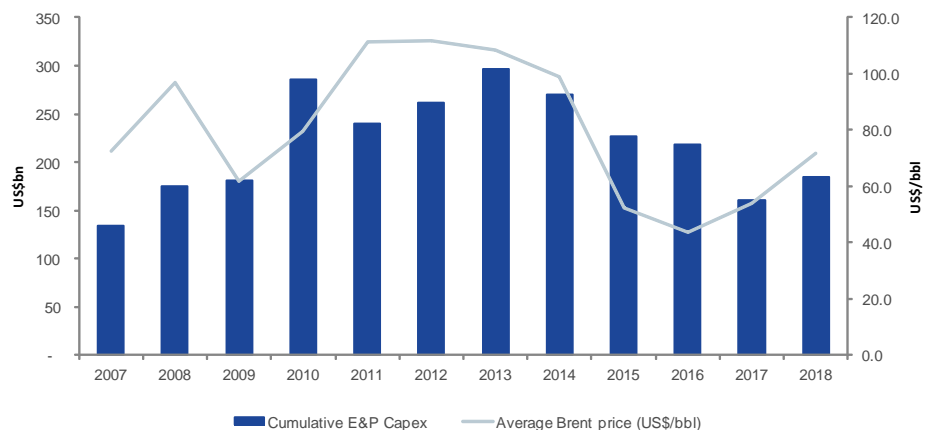
Figure 89 Global liquid balance and Brent oil price relationship



Source: EIA, Bloomberg, Al Rajhi Capital

Global E&P spending. Based on the spending data of major 15 global E&P companies, we found that the cumulative upstream capex of these companies declined at a CAGR of ~14% over 2013–17 amid weak oil prices. Despite a recovery in average Brent oil prices (+21.5% y-o-y) in 2017, global E&P companies continued to lower their spending by ~27%, reflecting their hesitation to spend aggressively at that time, while the existing fields continued to deplete. However, capex of these companies rose 15% y-o-y in 2018, given firm oil prices post strong OPEC production cut compliance and healthy demand growth. We note that despite volatility in oil prices, upstream investment in the Middle East and the Kingdom has remained largely unaffected. With the global oil demand likely to continue to improve in the coming years (2020E: 102.22mmbd vs. 99.93mmbd in 2018), we believe the global E&P producers will need to accelerate capital spending significantly to meet the anticipated rise in demand.

Figure 90 Global E&P spending* move in tandem with oil prices

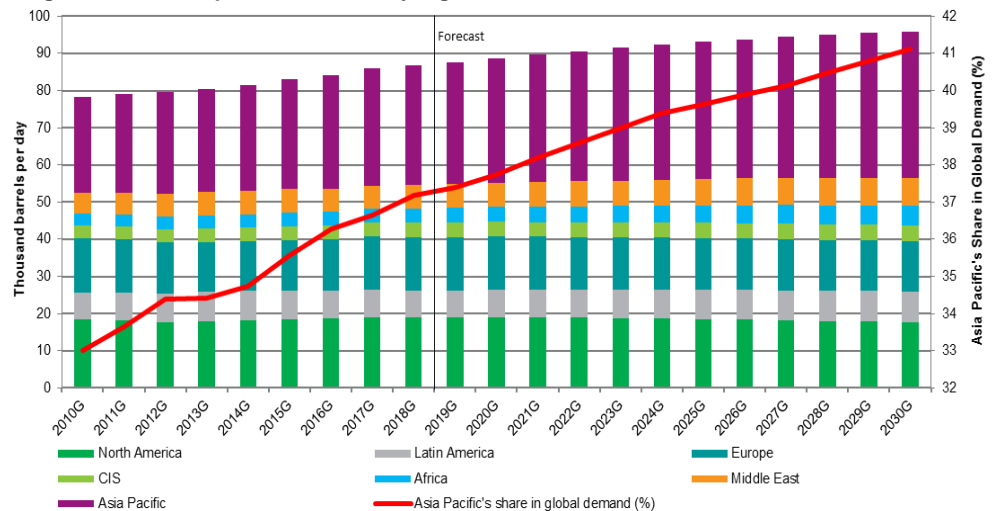


Source: EIA, Bloomberg, Al Rajhi Capital. *Based on major 15 E&P companies globally



Demand for refined and chemical products likely to improve. Given a healthy global economic outlook over the medium term, the global demand for refined products is likely to grow at a CAGR of 0.8% over 2018–30E, backed by rising demand in Africa (+2.4% CAGR), the Middle East (+1.6% CAGR), and Asia Pacific (+1.7% CAGR), offsetting a likely lower demand in North America (-0.6% CAGR). Furthermore, the industry is expected to witness a geographical shift in global refining operations with the addition of large refineries in Asia Pacific and the Middle East and the closure of economical and inefficient refineries in OECD countries (mainly in Europe), due to regularity requirements.

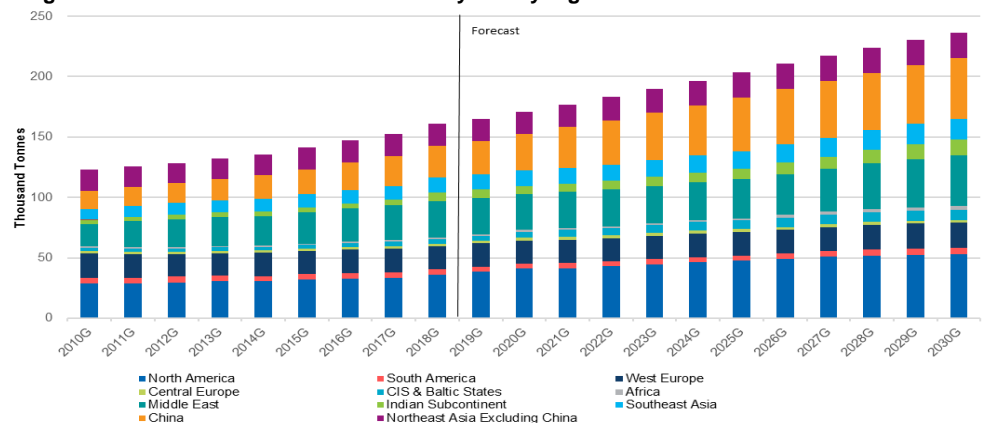
Figure 91 Refined product demand by region



Source: IHS Markit, Al Rajhi Capital

Meanwhile, the demand for chemical products is likely to outpace the consumption growth for both oil and refined production. For the basic chemical product ethylene, the demand is likely to grow at a CAGR of 3.3% over 2018–30E. This will mainly be due to higher demand in China (5.6% CAGR) and North America (3.3% CAGR) over 2018–30E.

Figure 92 Global domestic demand for ethylene by region

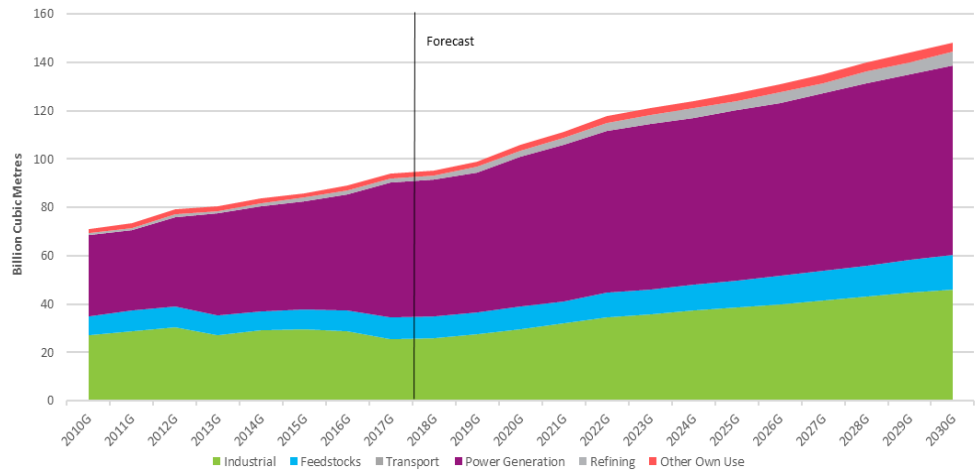


Source: IHS Markit, Al Rajhi Capital

In-Kingdom demand for natural gas continues to rise. Saudi Arabia, the seventh largest gas market globally in 2018, is expected to witness a significant rise in gas consumption, growing at a CAGR of 3.6% over 2018–30E, above a 1.7% growth for global natural gas demand (source: Aramco prospectus). The in-Kingdom demand is primarily attributable to higher demand in domestic power generation, refinery operations, and industrial sectors.



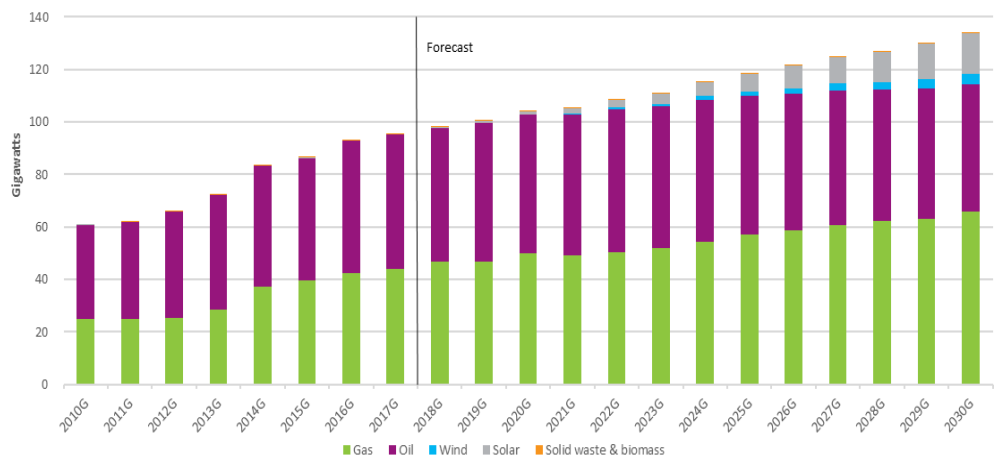
Figure 93 Domestic natural gas demand by sector



Source: IHS Markit, Al Rajhi Capital. Excluding ethane used as petrochemical feedstock and other NGL demand

Furthermore, the development of non-associated natural gas resources over the past decade has also notably increased the domestic natural gas production capacity, ensuring sufficient feedstock availability for the concerned sectors. Consequently, the Kingdom is likely to increase its natural gas usage in power generation with natural gas-fueled power capacity and generation increasing at a CAGR of 3.1% and 3.5%, respectively over 2018–30E. Moreover, the share of natural gas in the total power generation mix is projected to increase from 60.3% in 2017 to 70.8% by 2030E, while oil’s share may reduce to 19.8% from 39.7%. Accordingly, the Kingdom would be able to reallocate the crude oil usage for power generation and will be in a better position to lift its export output further in the coming years.

Figure 94 Expected domestic power capacity growth by fuel



Source: IHS Markit, Al Rajhi Capital. Excluding ethane used as petrochemical feedstock and other NGL demand



Detailed Financial Statements with projections

Figure 95 Income statement (in US\$bn)

	FY16	FY17	FY18	FY19E	FY20E	FY21E	FY22E	FY23E
Revenue	134.6	222.9	315.2	288.2	303.1	321.9	340.1	345.5
Other income related to sales	0.0	40.0	40.7	36.1	37.2	40.3	42.7	43.6
Revenue and other income related to sales	134.6	262.9	355.9	324.3	340.4	362.2	382.8	389.2
Production royalties and excise and other taxes	0.0	(36.4)	(55.6)	(48.6)	(35.3)	(37.2)	(39.9)	(40.7)
Purchases	(14.2)	(32.1)	(50.4)	(52.6)	(43.5)	(33.5)	(35.2)	(35.2)
Producing and manufacturing	(12.9)	(17.1)	(15.0)	(14.9)	(26.5)	(37.6)	(38.7)	(39.9)
Selling, administrative and general	(9.9)	(7.9)	(8.3)	(8.3)	(10.4)	(13.3)	(13.9)	(14.2)
Exploration	(3.0)	(3.7)	(2.1)	(1.9)	(1.9)	(1.9)	(2.0)	(2.1)
Research and development	(0.5)	(0.5)	(0.6)	(0.5)	(0.5)	(0.5)	(0.6)	(0.6)
Depreciation and amortization	(9.0)	(9.8)	(11.0)	(12.4)	(15.7)	(20.0)	(21.1)	(22.2)
Impairments	(3.6)	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0
Operating costs	(53.0)	(107.6)	(143.0)	(139.3)	(133.8)	(144.1)	(151.4)	(154.9)
Operating income	81.5	155.4	212.9	185.1	206.6	218.1	231.5	234.3
Share of results of joint ventures and associates	(0.3)	(0.3)	(0.4)	(0.3)	(0.1)	0.3	0.3	0.4
Finance and other income	0.4	0.4	1.0	2.0	1.9	2.1	2.3	2.7
Finance costs	(0.4)	(0.6)	(0.8)	(1.5)	(2.1)	(2.3)	(2.1)	(2.8)
Income before income taxes	81.3	155.1	212.8	185.3	206.4	218.2	232.0	234.5
Income taxes	(68.1)	(79.2)	(101.7)	(88.9)	(98.4)	(102.9)	(109.3)	(110.8)
Net income before minority	13.3	75.9	111.1	96.3	108.0	115.3	122.7	123.7
Non-controlling interests	(0.4)	(0.4)	(0.1)	(0.1)	(0.8)	(1.8)	(1.9)	(1.9)
Net income available to equity shareholders	12.9	75.5	111.0	96.3	107.0	113.0	120.3	121.2

Source: Company Data, Al Rajhi Capital. SABIC included in H2 2020.



Figure 96 Balance sheet (in US\$bn)

	FY16	FY17	FY18	FY19E	FY20E	FY21E	FY22E	FY23E
Cash and cash equivalents	12.8	21.7	48.8	48.6	27.8	29.6	19.4	20.7
Inventories	5.6	9.1	11.6	12.0	17.9	16.0	16.5	16.8
Trade receivables	17.4	23.2	25.0	23.1	28.8	28.8	30.3	30.8
Due from the Government	0.0	10.4	12.8	12.9	12.9	12.9	12.9	12.9
Other assets and receivables	1.3	1.6	3.7	2.8	4.1	4.1	4.1	4.1
Short-term investments	3.3	1.6	0.1	12.3	14.0	14.0	30.0	46.0
Total current assets	40.5	67.5	102.0	111.7	105.5	105.3	113.3	131.3
Property, plant and equipment	169.4	200.3	233.0	262.7	327.0	344.8	363.6	382.0
Intangible assets	4.2	6.5	7.2	8.5	13.2	14.4	15.7	16.9
Goodwill	0.0	0.0	0.0	0.0	29.8	29.8	29.8	29.8
Investments in joint ventures and associates	11.6	7.3	6.0	6.1	12.8	13.1	13.6	14.0
Deferred income tax assets	17.2	3.6	2.6	3.0	3.2	3.2	3.2	3.2
Other assets and receivables	3.3	3.8	3.5	5.1	6.8	6.8	6.8	6.8
Investments in securities	4.7	5.0	4.6	5.3	6.1	6.1	6.1	6.1
Total non-current assets	210.4	226.5	256.9	290.5	398.8	418.1	438.6	458.7
TOTAL ASSETS	250.9	294.0	359.0	402.3	504.3	523.4	551.9	590.0
Trade and other payables	13.9	16.5	19.3	20.0	26.9	23.7	24.6	25.1
Obligations to the Government:								
Income taxes	7.6	15.4	18.6	16.5	16.5	16.5	16.5	16.5
Royalties	2.6	5.4	3.2	3.3	3.3	3.3	3.3	3.3
Borrowings	2.4	2.4	8.0	10.7	12.0	12.0	12.0	12.0
Total current liabilities	26.5	39.7	49.0	50.5	58.7	55.6	56.4	56.9
Borrowings	11.6	18.3	19.0	35.5	46.1	46.1	46.1	46.1
Promissory notes	0.0	0.0	0.0	0.0	33.3	22.2	11.1	11.1
Deferred income tax liabilities	1.6	1.7	6.4	8.9	9.3	9.3	9.3	9.3
Post-employment benefit obligations	12.5	10.2	6.2	10.2	14.7	14.7	14.7	14.7
Provisions	2.5	3.7	4.2	4.4	5.0	5.0	5.0	5.0
Total liabilities	54.8	73.7	84.7	109.5	167.0	152.8	142.6	143.0
Share capital	0.0	0.0	16.0	16.0	16.0	16.0	16.0	16.0
Stated capital	16.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0
Additional paid-in capital	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Retained earnings:								
Unappropriated	168.4	190.7	245.5	264.8	291.8	290.6	327.7	363.6
Appropriated	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Other reserves	0.0	1.5	0.8	0.2	0.2	33.2	33.2	33.2
	193.2	217.0	271.1	289.8	316.8	348.6	385.6	421.6
Non-controlling interests	2.9	3.3	3.1	3.0	20.5	22.0	23.7	25.4
Shareholder's equity	196.1	220.4	274.2	292.8	337.3	370.6	409.3	447.0
TOTAL EQUITY AND LIABILITIES	250.9	294.0	359.0	402.3	504.3	523.4	551.9	590.0

Source: Company Data, Al Rajhi Capital. Note: We have assumed that SABIC deal will be completed at the end of H1 2020.



Figure 97 Cash flow statement (in US\$bn)

	FY16	FY17	FY18	FY19E	FY20E	FY21E	FY22E	FY23E
Income before income taxes	81.3	155.1	212.8	185.3	206.4	218.2	232.0	234.5
Depreciation and amortization	9.0	9.9	11.0	12.4	15.7	20.0	21.1	22.2
Impairments and provisions	3.9	(0.0)	0.0	0.0	0.0	0.0	0.0	0.0
Exploration and evaluation costs written off	1.8	2.3	0.8	0.6	0.0	0.0	0.0	0.0
Net gain on disposal of property, plant and equipment	0.0	(0.1)	0.0	(0.3)	0.0	0.0	0.0	0.0
Share of results of joint ventures and associates	0.3	0.3	0.4	0.3	0.1	(0.3)	(0.3)	(0.4)
Finance income	0.0	(0.3)	(0.8)	(1.6)	(1.9)	(2.1)	(2.3)	(2.7)
Finance costs	0.1	0.6	0.8	1.5	2.1	2.3	2.1	2.8
Dividends from investments in securities	(0.0)	(0.0)	(0.0)	(0.1)	0.0	0.0	0.0	0.0
(Gain)/loss on remeasurement of investments in	0.0	0.1	(0.2)	0.0	0.0	0.0	0.0	0.0
Change in fair value of investments through profit or loss	0.0	(0.0)	(0.2)	(0.1)	0.0	0.0	0.0	0.0
Change in joint ventures and associates inventory profit elimination	(0.0)	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0
Other	(0.1)	0.0	0.4	(0.0)	0.0	0.0	0.0	0.0
Change in working capital								
Inventories	(1.0)	(2.0)	(1.7)	(0.2)	(5.9)	2.0	(0.6)	(0.3)
Trade receivables	(5.7)	(4.8)	(1.5)	2.0	(5.7)	0.0	(1.5)	(0.5)
Due from the Government	0.0	(10.4)	(2.4)	0.1	0.0	0.0	0.0	0.0
Other assets and receivables	0.3	(0.1)	(2.0)	1.2	(1.3)	0.0	0.0	0.0
Trade and other payables	2.8	(0.3)	1.4	(0.2)	6.9	(3.2)	0.9	0.5
Royalties payable	1.3	2.8	(2.3)	0.2	0.0	0.0	0.0	0.0
Other changes								
Other assets and receivables	(0.8)	(0.9)	(0.3)	(2.0)	(1.7)	0.0	0.0	0.0
Provisions	0.0	(0.4)	(0.1)	0.1	0.6	0.0	0.0	0.0
Post-employment benefit obligations	(0.3)	(0.3)	(0.7)	0.3	4.5	0.0	0.0	0.0
Settlement of income and other taxes	(63.7)	(62.2)	(94.4)	(87.6)	(98.6)	(102.9)	(109.3)	(110.8)
Net cash provided by operating activities	29.2	89.0	121.0	111.9	121.1	134.1	142.0	145.4
Capital expenditures	(27.6)	(32.5)	(35.1)	(35.7)	(37.4)	(39.0)	(41.2)	(41.9)
Acquisition of affiliates, net of cash acquired	0.0	(0.3)	(2.3)	(0.4)	(47.4)	(0.0)	0.0	0.0
Distributions from joint ventures and associates	0.1	0.2	0.3	0.4	0.1	0.1	0.1	0.1
Investment in Arlanxeo	(1.4)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Additional investment in joint ventures and associates	(1.4)	(0.9)	(0.1)	(0.1)	(6.9)	(0.1)	(0.1)	(0.2)
Dividends from investments in securities	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Interest received	0.2	0.3	0.8	1.4	1.9	2.1	2.3	2.7
Net investments in securities	(0.2)	(0.1)	(0.2)	(0.2)	(0.8)	0.0	0.0	0.0
Net (purchases) maturities of short-term investments	(0.9)	1.7	1.6	(12.3)	(1.6)	0.0	(16.0)	(16.0)
Net cash used in investing activities	(31.2)	(31.6)	(35.0)	(46.6)	(92.1)	(36.9)	(55.0)	(55.3)
Dividends	0.0	0.0	(58.0)	(75.0)	(79.5)	(81.3)	(83.3)	(85.3)
Distributions to the Government	(3.0)	(50.1)	0.0	0.0	0.0	0.0	0.0	0.0
Dividends paid to non-controlling interests	(0.1)	(0.3)	(0.2)	(0.0)	(0.5)	(0.7)	(0.7)	(0.7)
Interest paid	(0.3)	(0.5)	(0.7)	(1.3)	(2.1)	(2.3)	(2.1)	(2.8)
Others	0.0	0.0	0.0	0.0	(12.8)	0.0	0.0	0.0
Promissory notes	0.0	0.0	0.0	0.0	44.4	0.0	0.0	0.0
Proceeds from borrowings	4.8	5.4	3.1	13.1	11.8	0.0	0.0	0.0
Repayments of borrowings	(0.9)	(3.0)	(3.0)	(2.4)	(11.1)	(11.1)	(11.1)	0.0
Net cash used in financing activities	0.5	(48.5)	(58.8)	(65.5)	(49.7)	(95.4)	(97.2)	(88.8)

Source: Company Data, Al Rajhi Capital. SABIC included in H2 2020

APPENDIX

Ras Tanura. The Ras Tanura Refinery is located in the Eastern Province of the Kingdom and was completed in 1941. Operations began in 1945 with a number of major expansions and upgrades over the subsequent years creating one of the largest refineries in the Middle East. The refinery has a gross refining capacity and a net refining capacity of 550,000 barrels of crude oil and condensate per day. (Source: Aramco prospectus)

Yanbu'. The Yanbu' Refinery is located in the Kingdom's western area and was completed in 1983. It has a gross refining capacity and a net refining capacity of 250,000 barrels of crude oil per day. (Source: Aramco prospectus)

Riyadh. The Riyadh Refinery is located in the Kingdom's central area and receives its crude from the East-West pipeline. The refinery has a gross refining capacity and net refining capacity of 130,000 barrels of crude oil per day. (Source: Aramco prospectus)

Jazan. The Jazan Refinery and Terminal is an integrated refinery and petrochemical project in the Jazan Province of the Kingdom. Jazan is expected to begin operations at the end of 2019 and be ready for full operations with capacity to process 400,000 barrels of crude oil per day in the second half of 2020. (Source: Aramco prospectus)

SATORP. SATORP is a joint operation between the Company and Total that owns and operates the Jubail refining and manufacturing complex located on the east coast of the Kingdom. The refinery has a gross refining capacity of 400,000 barrels of crude oil per day and a net refining capacity of 250,000 barrels of crude oil per day. SATORP is planned to increase its gross refining capacity from 400,000 barrels of crude oil per day to 440,000 barrels of crude oil per day by 2020. (Source: Aramco prospectus)

YASREF. YASREF is a joint operation between the Company and Sinopec that owns and operates a full conversion refinery located in the Yanbu' manufacturing complex on the west coast of the Kingdom, Yanbu' Industrial City. The Yanbu' facilities include a complex refinery with a gross refining capacity of 400,000 barrels of crude oil per day and a net refining capacity of 250,000 barrels of crude oil per day. YASREF is planned to increase its gross refining capacity from 400,000 barrels of crude oil per day to 430,000 barrels of crude oil per day by 2020. (Source: Aramco prospectus)

SAMREF. SAMREF is a joint operation between the Company and ExxonMobil that owns and operates a refinery located in the Yanbu' manufacturing complex on the west coast of the Kingdom. It has a gross refining capacity of 400,000 barrels of crude oil per day and a net refining capacity of 200,000 barrels of crude oil per day. (Source: Aramco prospectus)

SASREF. SASREF was a joint operation between the Company and Shell that owns and operates a refinery located in the Jubail manufacturing complex on the east coast of the Kingdom. On 18 September 2019G, the Company acquired Shell's 50% interest in SASREF and subsequently changed the name of SASREF to Saudi Aramco Jubail Refinery Company. The refinery has a gross refining capacity of 305,000 barrels of crude oil per day. (Source: Aramco prospectus)

Petro Rabigh. Petro Rabigh owns and operates a highly integrated refining and petrochemical facility located in Rabigh on the west coast of the Kingdom. The Petro Rabigh facility has a gross refining capacity of 400,000 barrels of crude oil per day and a net refining capacity of 150,000 barrels of crude oil per day. Petro Rabigh is a publicly traded company listed on Tadawul and is 37.5% owned by each of the Company and Sumitomo. (Source: Aramco prospectus)

Motiva. Motiva's Port Arthur refinery, located in Port Arthur, Texas, is the largest single site crude oil refinery in North America, with a gross refining capacity and a net refining capacity of 635,000 barrels of crude oil per day, 24 distribution terminals with 8.2 mmbbl storage capacity and access to strategic pipeline systems in the eastern and southeastern regions of the United States. (Source: Aramco prospectus)



S-Oil. S-Oil's principal business activity is manufacturing and selling refined, lubricant and petrochemical products and importing and exporting crude oil products. S-Oil's Onsan Refinery in Ulsan, South Korea has a gross capacity of 669,000 barrels of crude oil per day. S-Oil has a network of more than 2,100 retail service stations to serve end customers. S-Oil is a publicly traded corporation listed on the Korean stock exchange. (Source: Aramco prospectus)

FREP. FREP is an international joint venture between the Company, ExxonMobil and Fujian Petrochemical Company Limited (itself a joint venture between Sinopec and the Fujian provincial government). FREP is a large-scale refining and petrochemical enterprise located in Quanzhou, China. It has gross refining capacity of 280,000 barrels per day and a net refining capacity of 70,000 barrels per day. The refinery processes a mix of Arabian crude oils to produce high-quality gasoline, diesel and jet fuel. FREP also owns and operates petrochemical facilities, including an 830,000 tonnes per year paraxylene complex, a 1.1 million tonnes per year ethylene steam cracker with associated polyethylene, polypropylene and ethylene glycol plants as well as a 300,000 deadweight-tonne crude oil terminal. (Source: Aramco prospectus)

SSPC. SSPC is the fuels distribution and marketing venture between the Company, ExxonMobil and Sinopec. SSPC sells wholesale and retail motor gasoline and diesel to customers in Fujian Province through more than 1,000 service stations and 17 distribution terminals, seven of which are owned by the joint venture. SSPC has exclusive rights to market FREP gasoline and diesel products in Fujian Province. (Source: Aramco prospectus)

Idemitsu Kosan. Idemitsu Kosan is a result of a merger between Idemitsu and Showa Shell Sekiyu and it owns and operates more than 6,400 retail service stations in Japan and has equity stakes in six refineries in Japan that produce refined products, propylene, benzene and mixed xylene. Idemitsu Kosan has a net refining capacity of 73,000 barrels per day and a gross refining capacity of 945,000 barrels per day. Idemitsu Kosan's sales in Japan are primarily gasoline, kerosene and automotive lubricants. Its international sales include aviation fuel as well as marine bunkers and lubricants. (Source: Aramco prospectus)

PRefChem. PRefChem is an integrated refinery and petrochemicals development project involving multiple parties in Johor, Malaysia, which is adjacent to the regional trading hub of Singapore. The Company and Petronas are involved in the joint development of PRefChem. PRefChem is expected to be supported by third party utilities and infrastructure facilities, including a deep-water oil terminal, an LNG regasification plant, crude and LNG storage and a cogeneration power plant and is expected to supply feedstock to third party downstream petrochemical plants. PRefChem is expected to have the capacity to process 300,000 barrels of crude oil per day and produce Euro 5 gasoline and diesel and other refined products as well as feedstock for the production of three million tonnes per year of petrochemical products. The project will provide the Company with long-term placement of 150,000 barrels per day, with an option for an additional 60,000 barrels per day of Arabian crude and the offtake rights for 50% of production, including gasoline, diesel, kerosene, olefins, polymers and glycol. The project is expected to be operational in the second half of 2020. (Source: Aramco prospectus)

Hyundai Oilbank. Hyundai Oilbank is a private oil refining company in South Korea, established in 1964. The Daesan Complex, where Hyundai Oilbank's major facilities are located, is a fully integrated refining plant with a processing capacity of 650,000 barrels of crude oil per day. The business portfolio of Hyundai Oilbank and its subsidiaries includes oil refining, base oil, petrochemicals and a network of service stations. On 15 April 2019, the Company entered into a purchase agreement to acquire a 17% equity interest in Hyundai Oilbank from Hyundai Heavy Industries Holdings, for an estimated SAR 4.7 billion with an option to acquire an additional 2.9% equity interest. The transaction completed by end of 2019. (Source: Aramco prospectus)



The following sets forth a description of the company's base oil operations.

Luberef. Luberef is an affiliate whose shareholders are the Company and Jadwa Industrial Investment Company that supplies base oils to major lubricant blenders operating around the world. Luberef produces high-quality Group I and Group II base oils at an optimised grade mix from its two production facilities that are strategically located in Jeddah and Yanbu'. In January 2018, Luberef commissioned new Group II base oils facilities which increased Luberef's total base oil production capacity from 0.6 million tonnes per year to 1.2 million tonnes per year. (Source: Aramco prospectus)

Motiva. Motiva supplies Group II and speciality base oils in the Americas and Europe to major IOCs, such as BP and Shell, and domestic blenders, such as Citgo. Motiva's base oil production capacity of 2.0mn tonnes per year produces branded base oils used to manufacture products conforming to API Engine Oil Licensing System, European Automobile Manufacturers' Association, Original Equipment Manufacturers and other recognised industry standards for automotive and industrial lubricants. (Source: Aramco prospectus)

S-Oil. S-Oil was founded in 1976 in South Korea. S-Oil's base oil production capacity is 2.2mn tonnes per year and it manufactures high-quality base oils in a full range of Group I, Group II and Group III base oil products used by customers around the world. (Source: Aramco prospectus)

Figure 98 Dividend payout ratio of major oil producers

	2014	2015	2016	2017	2018
Exxon	36%	75%	159%	66%	66%
Chevron	41%	174%	n/a	88%	57%
Total SA	166%	130%	106%	87%	68%
Shell	80%	724%	335%	121%	66%
BP	188%	n/a	n/a	234%	87%
Rosneft	25%	35%	36%	50%	28%
Median*	41%	130%	133%	87%	66%

Source: Bloomberg, Al Rajhi Capital. * Ex-BP. n/a denotes not applicable



Definitions/Calculations

ROIC = (EBIT - Tax) / (Shareholders' equity + total borrowings – cash – short-term investments)

Payout ratio = Dividends divided by net profits

RoACE = Calculated as net income before finance costs, net of tax, for a period as a percentage of average capital employed during that period. Average capital employed is the average of the Company's total borrowings plus total equity at the beginning and end of the applicable period



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"Overweight": Our target price is more than 10% above the current share price, and we expect the share price to reach the target on a 12 month time horizon.

"Neutral": We expect the share price to settle at a level between 10% below the current share price and 10% above the current share price on a 12 month time horizon.

"Underweight": Our target price is more than 10% below the current share price, and we expect the share price to reach the target on a 12 month time horizon.

"Target price": We estimate target value per share for every stock we cover. This is normally based on widely accepted methods appropriate to the stock or sector under consideration, e.g. DCF (discounted cash flow) or SoTP (sum of the parts) analysis.

"Fair price": For certain stocks we estimate fair price per share instead of the target price given the method of valuation used

Please note that the achievement of any price target may be impeded by general market and economic trends and other external factors, or if a company's profits or operating performance exceed or fall short of our expectations.

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