WE REMAIN COMMITTED TO MAINTAINING A HEALTHY FREE CASH FLOW POST-CAPEX FROM THE OIL & GAS BUSINESS.

Mangala Processing Terminal in Rajasthan

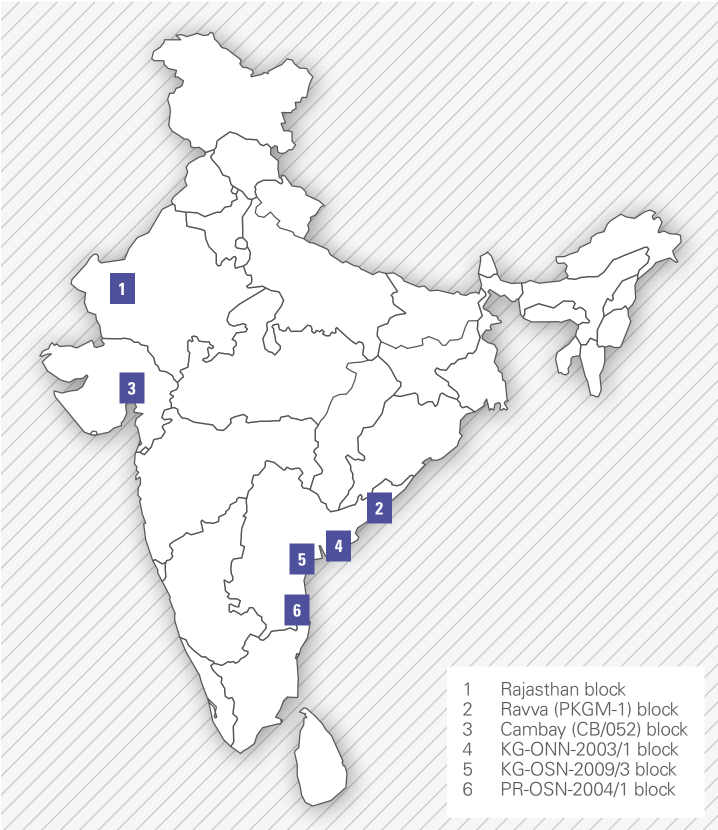
SUDHIR MATHUR
ACTING CEO, OIL & GAS

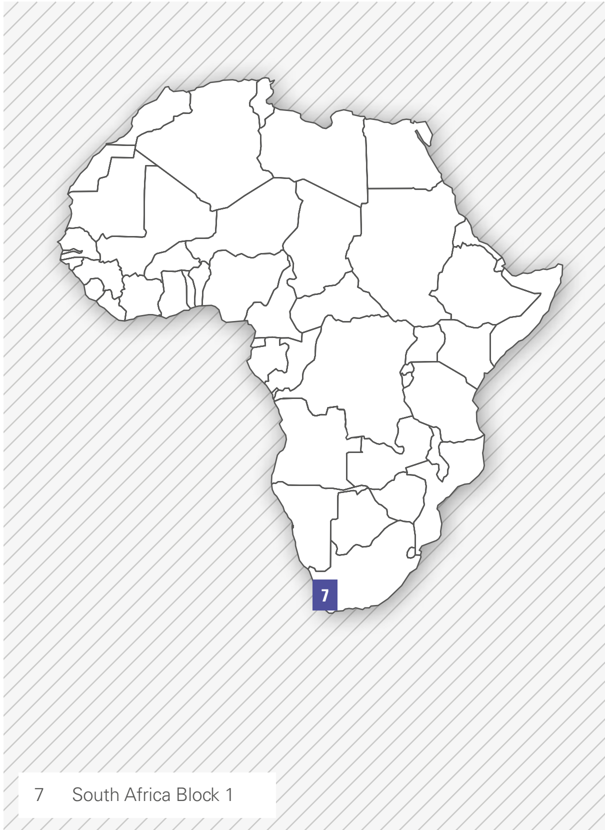
The year in summary:

During FY2017, with a recovery in prices, we have started moving ahead with our growth opportunities, specifically at the prolific Rajasthan assets. The production volumes were maintained with operating cost at the lower end among global peers and strong free cash flows.

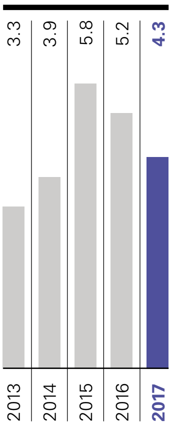
The low crude oil price environment was channelised to rebase costs for key projects in the portfolio. These constant efforts to optimise costs across the value chain have enabled healthy project economics even at US$40 per barrel. The recent rise and expected sustained stability in the Brent prices will enhance the returns further.

In FY2018 we intend to restart our capex cycle which shall enable us to unlock the full potential of the Barmer Basin in Rajasthan.

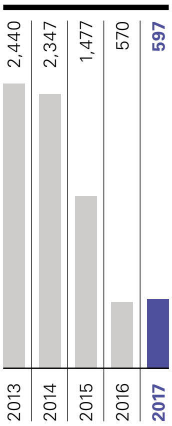




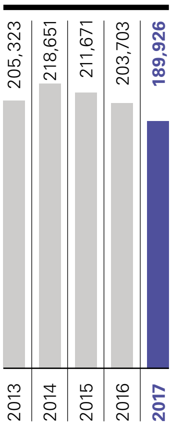
DIRECT OPERATING COSTS
(US$/BBL)



EBITDA
(US$ MILLION)



PRODUCTION – AVERAGE DAILY GROSS OPERATED PRODUCTION
(BOEPD)



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SAFETY
In Oil & Gas, we made significant progress towards zero harm by halving our lost time injuries to seven, from the previous year's 14. The frequency rate stood at 0.30 against the 0.35 in FY2016. The Oil & Gas business received recognitions for excellence in our safety and security management systems:

- Seven International Merit awards from the British Safety Council (BSC) for its various operating installations.
- International Fire Security Exhibition and Conference (IFSEC) Award towards our efforts in leveraging technology to protect our assets across locations.

ENVIRONMENT
The water recycling rate for the reporting year was 82%, compared to 66% in FY2016. Further demonstrating our commitment to the environment, two satellite fields' (NI2 and Raag Oil) fuel sources were switched over from diesel to natural gas.

DIVISIONAL REVIEW CONTINUED
OIL & GAS

PRODUCTION PERFORMANCE

	Unit	**FY2017**	FY2016	% change
Gross production	boepd	**189,926**	203,703	(6.8)%
Rajasthan	boepd	**161,571**	169,609	(4.7)%
Ravva	boepd	**18,602**	23,845	(22.0)%
Cambay	boepd	**9,753**	10,249	(4.8)%
Oil	bopd	**184,734**	196,955	(6.2)%
Gas	mmscfd	**31.2**	40.5	(23.0)%
Net production – working interest	boepd	**121,186**	128,191	(5.5)%
Oil	bopd	**118,976**	125,314	(5.1)%
Gas	mmscfd	**13.3**	17.3	(23.1)%
Gross production	mboe	**69.3**	74.6	(7.1)%
Working interest production	mboe	**44.2**	46.9	(5.7)%

PRICES

	FY2017	FY2016	% change
Average Brent prices – US$/barrel	**48.6**	47.5	2.3%

FINANCIAL PERFORMANCE
(IN US$ MILLION, UNLESS STATED)

	FY2017	FY2016	% change
Revenue	**1,222.7**	1,322.3	(7.5)%
EBITDA	**597.2**	570.4	4.7%
EBITDA margin	**48.8%**	43.1%	–
Depreciation	**411.0**	544.6	(24.5)%
Acquisition-related amortisation	**–**	281.7	–
Operating profit	**186.2**	(255.9)	–
Share in Group EBITDA %	**18.7%**	24.4%	–
Capital expenditure	**62.2**	214.2	(71.0)%
Sustaining	**6.2**	15.8	(60.8)%
Projects	**56.0**	198.4	(71.8)%

OPERATIONS

Average gross production for FY2017 was 189,926 barrels of oil equivalent per day (boepd), which was 6.8% lower than the previous year. Cairn India operates approximately 26% of India's crude oil production. Rajasthan block production was 4.7% lower at 161,571boepd. The production was lower due to the reservoir underperformance at Bhagyam and Aishwariya fields and the planned maintenance shutdown at Mangala Processing Terminal in November 2016. However, the decline was partially offset by the successful execution of the polymer Enhanced Oil Recovery (EOR) project at Mangala, which enhanced production from the Mangala Field. Production from the Ravva and Cambay blocks was down by 22% and 5% respectively, due to natural decline.

The Mangala EOR, the world's largest polymer flood project, continued to show its exemplary performance. The polymer injection was maintained at target levels of 400,000 barrels of liquid per day and resulted in a positive production impact of ~52,000 barrels of oil per day (bopd) in FY2017. The Rajasthan block recorded an excellent plant uptime of over 99% for the year.

In the Ravva block, the coil tubing and acid stimulation campaign was executed in Q4 FY2017 and this has helped to offset the natural decline. Well stimulation in a few of the water injector wells has also had a positive effect, helping to sustain the required water injection rates to support production from the oil wells. The Ravva block recorded an excellent uptime of over 99% for the year.


Ravva oil field

In the Cambay block, natural decline was restricted to 5%, supported by production optimisation activities. The Oil and Natural Gas Corporation (ONGC) Olpad gas tolling commenced to utilise surplus facilities at the onshore terminal. The Cambay block recorded an excellent uptime of over 99% for the year.

Gas production from Raageshwari Deep Gas (RDG) in Rajasthan was maintained at an average of 26mmscfd in FY2017, with average sales at 10mmscfd. The technical issue between the transporter and the gas buyers, which resulted in the temporary suspension of sales from October to mid-February, has now been resolved.

FY2017 saw a substantial recovery in crude oil prices compared with the record lows at the beginning of the calendar year (CY) 2016. The Brent crude oil price averaged US$48.6 per barrel, with a closing rate of US$51.9 per barrel on 31 March 2017. The year marked the landmark deal wherein the Organisation of the Petroleum Exporting Countries (OPEC) surprised the market by announcing a production cut agreement of 1.2 million barrels per day (mbpd), for the first time since 2008. The deal also called for an additional 0.6mbpd reduction from non-OPEC suppliers. This action by OPEC signalled a return to its focus on active market management in order to stabilise crude oil prices.

Market reports have indicated an impressive level of compliance by the producers from the effective date of January 2017, as well as growing support for an extension of the pact beyond the agreed six-month period to tackle the global supply glut. However, a sustained and rapid growth in the US oil rig count, indicating an increase in shale drilling activities, kept the price within the US$45 – US$55 range per barrel. Prices were also burdened by US Government data showing a sustained build-up of supplies to record levels since the beginning of the 2017 calendar year. The U.S. Energy Information Administration (EIA) reported that US crude oil inventories rose to 535.5 million barrels – the highest level ever.

In CY2017, global production and consumption are both expected to increase, with consumption expected to grow at a faster rate. However, due to the sustained low levels of oil prices internationally, approvals of new conventional crude oil projects in 2015-16 fell to the lowest level seen since the 1950s. The International Energy Agency (IEA) believes that if approvals continue to remain low, an unprecedented effort will be needed to avoid a supply-demand gap in the future.

FINANCIAL PERFORMANCE

Revenue for the year was lower at US$1,223 million (after profit and royalty sharing with the Government of India), impacted by lower production volumes. However, EBITDA for FY2017 was higher by 5% at US$597 million, due to cost optimisation initiatives and reduced cess on an ad-valorem basis. The Rajasthan water flood operating cost was further reduced by 17% to US$4.3 per barrel compared with US$5.2 per barrel in the previous year, through the continuous improvement in crude processing and well maintenance costs. Despite a ramp up of polymer injection volumes to 400,000 barrels of liquid per day, blended operating cost decreased to US$6.2 per barrel during FY2017 compared with US$6.5 per barrel in FY2016.

In FY2017 capital expenditure was US$62 million, which was primarily focused on the Mangala Polymer Project, the Raageshwari Deep Gas Project and the Palar drilling campaign.

RESERVES

In FY2017, the Oil & Gas division started the year with working interest (WI) 2P reserves of 175mmboe, and ended the period with 124mmboe. Excluding production, our working interest 2P reserves for the year declined by approximately 4.6mmboe, driven by the polymer flood project's deferral in the Bhagyam field. However, reserves were added from certain new projects – Mangala Infill, Nagayalanka, Aishwariya BH Stage 1 – and from some satellite fields and better reservoir performance in offshore fields, mainly at Cambay. The 2P reserves would increase by approximately 175mmboe (WI) on the extension of Rajasthan production sharing contract (PSC) beyond 2020.

EXPLORATION AND DEVELOPMENT

DEVELOPMENT

RAAGESHWARI DEEP GAS DEVELOPMENT

Gas development in the Raageshwari Deep Gas (RDG) field in Rajasthan continues to be a strategic priority. Capex investment in the phased development of the project is progressing well, with the aim of achieving a gradual ramp up in production. In FY2018, the completion of a low-cost expansion of the existing facility and the enhancement of current pipeline capacity are expected to lead to a ramp up of production to 40-45mmscfd. The team is also working to enhance the recovery estimates from the field by maintaining a technology-focused approach and gaining a better understanding of the reservoir, based on geological and geophysical studies carried out in FY2017. The capex investment programme in the project includes plans for a new well drilling programme in FY2018. A new gas processing infrastructure is also progressing well.

ENHANCED OIL RECOVERY IN BHAGYAM AND AISHWARIYA

We look to leverage the learnings from the excellent performance of Mangala EOR to enhance production from Bhagyam and Aishwariya through polymer injection. A multi-well polymer injectivity test for Bhagyam was successfully completed during the quarter and the results have been encouraging. The revised field development plan has been submitted to the JV partner. The injectivity test in Aishwariya has started in three polymer injector wells. The field development plan has been submitted to the JV partner.

AISHWARIYA BARMER HILL

The large hydrocarbons initially in place (HIIP) of 1.4 billion barrels of oil equivalent of Barmer Hill offers significant growth potential. Development cost for Aishwariya Barmer Hill has been reduced by over 30% to US$195 million from an initial estimate of US$300 million, for an estimated recovery of 32 million barrels. We have achieved commercial and technical alignment with our JV partner for Stage 1 and production from appraised wells would start in Q1 FY2018. Execution of Stage 2 is expected to begin in fiscal year 2018.

Main image: Employees at Raageshwari Gas Terminal in Rajasthan

MANGALA INFILL

Mangala has been the most prolific field over the years. We are commencing a 15 -well infill drilling programme at Mangala to monetise the reserves early. The field development plan for this project has been approved and drilling of the wells is planned for Q2 FY2018.

SURFACE FACILITY UPGRADE

In order to maximise production, we are focusing on creating ullage at the Mangala Processing Plan (MPT) and debottlenecking surface network. A series of measures are being planned to increase the liquid handling and water injection capacities

KRISHNA-GODAVARI BASIN ONSHORE – (BLOCK KG-ONN-2003/1)

Our joint venture partner and operator ONGC has submitted the field development plan (FDP), which has been approved by the Management Committee.

EXPLORATION

RAJASTHAN – (BLOCK RJ-ON-90/1)

During FY2017, our focus was on identifying new plays, appraising new discoveries, and processing and interpreting the new 3D seismic data over high-priority areas. We have made significant progress in revamping the portfolio of prospects in the block to achieve an overall prospective resource base of more than 1 billion barrels of oil & gas by FY2018. New prospects based on both new-play concepts and proven-play extensions have added 436mmboe of prospective resources in FY2017. Exploration prospects have been firmed up for drilling in FY2018, based on the interpretations of newly acquired 3D seismic data.

KRISHNA-GODAVARI BASIN OFFSHORE – (BLOCK KG-OSN-2009/3)

The initial exploration period in the block expired on 8 March 2016. We continue to engage with the Ministry of Petroleum & Natural Gas for an extension of the initial exploration period and defence clearance for drilling exploration wells. Interpretation of the new seismic volumes has resulted in the identification of robust drillable prospects and a number of leads over different play types. Prospects are now being firmed up for exploration drilling in fiscal year 2018.

PALAR-PENNAR BASIN OFFSHORE – (BLOCK PR-OSN-2004/1)

An exploratory drilling campaign in the frontier block started on 10 February 2017. Three well-drilling campaigns were completed by April 2017 and the wells were subsequently abandoned.

ORANGE BASIN OFFSHORE, SOUTH AFRICA – (BLOCK-1, SOUTH AFRICA)

The prospect inventory matured in the outboard plays. The assessment of exploration potential of inboard plays is ongoing, to provide other drilling options. Cairn, along with the Joint Venture (JV) partner Petro SA, have deferred entry into the second renewal phase (February 2015 – February 2017) in Block-1, South Africa, awaiting clarity on the changes in fiscal terms as proposed in the Mineral and Petroleum Resources Development (MPRD) Amendment Bill.

OUTLOOK

We remain committed to maintaining a healthy free cash flow post-capex from the Oil & Gas business. We expect Rajasthan production volumes to remain steady at 165,000boepd with potential upside from execution of growth projects in FY2018. The net capex is estimated at US$250 million with further optionality for growth projects. The key development projects being pursued in FY2018 are Mangala Infill, surface facility upgrade, Aishwariya EOR, Bhagyam EOR, RDG and Barmer Hill, with expected capex investment of US$250 million.

STRATEGIC PRIORITIES

- Generate free cash flow post growth capex from the Oil & Gas business;
- Continue managing base production with a focus on opex optimisation and efficient reservoir management;
- Activate growth capex plans to unlock the potential of the Barmer Basin. Key projects being planned are Mangala Infill, Surface facility upgrade, Aishwariya EOR, Bhagyam EOR, RDG and Barmer Hill; and
- Pursue an alternative strategy of executing projects through an integrated project development model in partnership with consortiums led by global oil field services majors. This shall help us drive incremental efficiencies and execute projects faster with the aim of increasing the production to 300,000boepd in foreseeable future.

> In FY2018 we intend to restart our capex cycle which will enable us to unlock the full potential of the Barmer Basin in Rajasthan.

SUDHIR MATHUR
ACTING CEO, OIL & GAS